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# THE DEPUTY PHYSICIAN.



# The Deputy Physician:

A COMPLETE HOUSEHOLD GUIDE  
FOR THE PRESERVATION OF HEALTH  
AND  
TREATMENT OF DISEASES,

BY

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## PREFACE.

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IN an able leading article in the *Glasgow Herald*, published early in August, 1897, a very serious blow to that so-called ethic “medical etiquette” was most effectually administered. With such an important precedent before me, I need offer no apology for giving expression to the sentiments contained in these pages, nor for assuming the position of Lictor, and using my best endeavours to open the eyes of the public still further to the pernicious influence this fetish exercises upon its welfare. This has special reference to the public’s life and purse, the former of which, in not a few instances, I grieve to aver, is treated with the greatest amount of levity, whilst the latter is viewed with hungry eyes. If the community at large were only aware of the fact—yes, the fact—that thousands of victims are annually immolated on the altar of this demon—for it (medical etiquette) is too pregnant with evil to be designated by any other term—everyone without hesitation would rise up in arms against it. As matters stand, the community have become so accustomed to its worship that they submit to lie passive under its domination, and thus have become slaves to its mysticism, with only here and there a faint murmur rising against it. Surely the time has arrived when this relic of mediæval incantation, superstition, and trickery were swept off the face of civilisation! Moreover, while it is injurious to the community, it is most humiliating to the medical profession and insulting to their higher instincts. It may, and doubtless will be, remarked that these are most sweeping statements to hazard with reference to the dogma of what is certainly a noble profession—yes, noble in every sense of the word as a “profession,” construe the word in any sense you please—yet how sad to realise that a proportion of its members are ignoble. I leave these and the lay public to judge if this accusation is true. I have been

a member of the medical profession for thirty years, and I am certain I have the sympathy of not a few of my confreres when, as a duty I owe the public, I state that to a painfully large extent its ranks are made up of a set of ignorant, avaricious, narrow-minded, and selfish men, whose first care is their own interests.

It has been remarked by a French satirist that "there are only two classes of physicians—namely, those who kill their patients and those who allow them to die." This is desperately hard-hitting, but it really strikes a very important nail on the head. I am convinced that if the public were educated (and I see no reason why they should not be) upon the laws of health and the nature and treatment of disease, and were to trust more to the *vis medicatrix naturae* than to the meddlesome interference of ignorant practitioners, there would be less suffering and fewer deaths than at present obtain. Hitherto it has been the blind faith of the public, which almost amounts to a religion, which has encouraged the growth of the pestilent weed designated "medical etiquette." But now it would appear the scales are beginning to fall off the eyes of those religionists, and I trust a reformation is near at hand.

Why should the public not study the laws relating to health and their temporal welfare as much as they do theology and its relation to spiritual things? We do not submit blindly in the latter and more important subject to the teaching of those who are constituted our spiritual guides, nor is it difficult to differentiate between the capabilities of the members of the clerical profession; and when we have made up our minds on the various points at issue we are not slow to give expression to our opinions. We are fully aware of the fact that there are members of the clergy who are unfit intellectually, as well as in many other ways, to occupy the positions they have assumed, with dignity and acceptance. We know also that, although many sects exist, some of these are composed of teachers who might aptly be termed religious quacks; yet there is only one road to heaven, although some would like to teach us to take diverse paths. So in the medical profession there exists a lamentable lack of intelligence, an enormous amount of hypocrisy, and a slavery to old world notions and error, all of which are reflected to a most pernicious

extent upon the long suffering public. There are certain laws of health which, if attended to, will maintain the body in its integrity, and it is only right that the public should study these for themselves, and not leave such an important subject as the care of their health in the hands of individuals who frequently are as blind as those they aspire to lead. Why do men assume so much independence, may I ask, in standing up for their religious convictions with all the energies they possess, and behave with such subservience in circumstances where their life is at stake, while they unanimously acknowledge that both the life that now is, and that which is to come, are equally the gifts of the Almighty ?

Does any unbiassed individual for a moment believe that when John Knox first promulgated his views he was the only member of the clergy who held the opinions which he so forcibly expressed ? Certainly not ; but he happened to be the only clergyman of the period who had the courage of his convictions, and the fortitude to express these in defiance of the powers that were. Then it was that the lesser lights burst into flame, and began to shine out, till eventually the whole firmament was ablaze with radiance, which has until now been as inextinguishable as the stars, and will go on shining as long as the world lasts. The sight of others was hidden at the time, and only required the example of a bright luminary to encourage their flickering flames to burst into full effulgence, and in this way grew the Reformation, which has shed such moral benefits wherever its influence has been felt. Let us hope, therefore, that as, morally, the Reformation in religion has been pregnant with such beneficial results, a reformation in medicine will bear fruit which in its turn shall do as much good physically. The time has now come when it is most desirable—nay, imperative—that the eyes of the public should be opened to the quackery that their bodies are the subjects of, and I may add, the prey to, also. That there is more quackery in the ranks of the medical profession than outside of it, I have no hesitation in affirming again, as I have frequently done before, and it is to endeavour to minimise the evil effects of this that constitutes the chief object of this book. Doubtless many enemies will rise up against me. (That any will be created

by my action I have no fear.) In any case, I have every reason to believe the *public* will not condemn me, and it is to it that I appeal, and it is it that I wish to benefit. Yet, as we well know by past experience, even those who are the beneficiaries eventually have often risen up against their benefactors, so that it will be only history repeating itself if, in my endeavours to bring about a reform in this instance, I am compelled to face a current of opposition, and even struggle in its flood till the spate passes by and the stream has resumed its normal condition—the river, in the meantime, having been cleansed of all the sludge and debris that had before rendered it an eyesore instead of a thing of beauty, as it should always appear.

My reader having perused thus far what he may reasonably designate pretty plain speaking, may possibly request me to supplement some illustrations in support of my statements. But to publish these would be so humiliating that I have thought it prudent for the present to refrain from doing so in full. It must not, however, be inferred that it is for lack of material that I hold my hand, but because a sense of shame confronts, if it does not actually overwhelm me. Yet I cannot refrain from narrating three instances which illustrate the imposition, and also ignorance, which, I grieve to aver, are not unfrequently practised upon the confiding public. Yet, even when the perpetrators are detected, these invariably escape the punishment they so richly deserve. The first is an example of a most ingenious method of attempted fraud, as the would-be pickpocket, even had he succeeded, would have been beyond the reach of the law—the more the pity. Yet, I have no doubt, this worthy is a devout upholder of medical etiquette.

The FACTS are as follows :—A gentleman very well known in the city where he resides applied to an insurance office for a policy upon his life. As is customary in these circumstances, he was obliged to undergo an examination by the medical officer of the company. When this had been complied with, the doctor informed him that the condition of his kidneys was not altogether satisfactory, but that he could put him right in about three weeks if he would place himself under his care (?) and come and see him every day during that period. This, of course,

meant that when he did visit the doctor he would table two guineas for each consultation. The gentleman, who, it may be inferred, was quite able to afford this, but had the wisdom not to commit himself at the time, said he would think the matter over. He thereupon left the house, and without loss of time proceeded to call upon first one, and then a second, independent medical man, and in each instance asked to be examined to ascertain if there was any kidney mischief present. Both of these men told him unhesitatingly that there was nothing wrong with his kidneys whatever. He then asked if they would each give him a certificate to that effect, which they had no hesitation in doing. With these certificates in his pocket he immediately proceeded to the insurance office, and told the agent that he had changed his mind and would not proceed any further with regard to the policy which he had applied for. This, as one can imagine, was a great blow to the agent, as the commission which he would otherwise have obtained would be *non est*. He therefore used all his endeavours to ascertain the reason of the sudden change in the intentions of this applicant for insurance. After a considerable amount of persuasion, he was informed of the facts which I have just enumerated, whereupon the worthy medical adviser of the company was requested to explain his conduct with reference to this case, which I can assure my reader he did in a very lame and apologetic manner. Is it possible to describe such conduct as anything but a distinct endeavour to obtain money from an individual by attempting to play upon his credulity—in short, by false pretences? If this is not quackery in its most obnoxious garments, I am at a loss for a definition of the term.

The following case also can only be described as quackery of the basest description. A lady and two sons took up their residence in the neighbourhood of a certain medical man. (I may add that she was wealthy, and was known to be so.) One of her sons—the younger of the two—became feverish, and when the doctor was called in he pronounced it to be a case of typhoid, and ordered that the carpet be taken up from the room, and sheets saturated with carbolic acid in water hung over the doorways, and the house otherwise dismantled. He continued visiting the boy twice daily for two or three weeks, when, as it happened

a medical friend was visiting at the house, the lady being an old friend of his. He naturally went up to see the boy, and questioned the nurse in attendance about the character of the stools and the frequency of the diarrhoea. She told him candidly that there never had been any diarrhoea, but that the doctor said this was a case of "dry typhoid"—in short, that the bowels were constipated instead of being loose. Now, one may quite as readily describe water as a dry fluid as typhoid fever "dry typhoid." The nurse was apparently very much dissatisfied in her own mind both with the diagnosis and the treatment pursued. It was quite evident that the so-called typhoid was nothing of the kind, but that the feverish condition was entirely due to the constipated state of the boy's bowels. He (the visitor) therefore took it upon himself to order an enema, notwithstanding the fact that the other doctor was in attendance. (This proceeding was, of course, in direct opposition to medical etiquette.) The nurse willingly carried out her instructions, whereupon the fever subsided, and the boy made a rapid convalescence. Had this been the child of a poor woman I am perfectly certain that no such deception would have been practised. For my part, I have seen many cases of a similar description, where the anxious parents had been imposed upon in a like manner, but, I am inclined to believe, from ignorance in many instances, and where, when the children have been younger, their lives have been jeopardised to an alarming extent. I hold that dishonesty of this kind should be severely punished and the perpetrator exposed, otherwise the health of the community will continue to be trifled with, and anxieties created which never should have existed.

The third case may possibly illustrate the resources (*sic*) of the country practitioner. A gentleman took jaundice, which his medical attendant told him was due to gall stones, although, beyond the fact that jaundice was present, there was not a symptom of gall stone. The doctor, however, proceeded to treat the case according to *his diagnosis*, and after weakening the patient considerably without affording him any relief, and observing that there was considerable dissatisfaction arising in the minds both of the gentleman and his family, he made the following proposition—That seeing the means he had employed had been

so unsuccessful, he suggested it would be a good plan if the patient would go to bed and he (the doctor) would try what a course of blistering and sweating would do. This proposal of being subjected to an experimental course of treatment was naturally too much for the sufferer, and he flatly refused to accede to the *wise* man's suggestions, and said he would submit to no more treatment until he had obtained further advice; the result being, it was ascertained, that no gall stones were or ever had been present, but that the disease was due to a malignant enlargement of the liver, which shortly afterwards proved fatal; but how much death had been accelerated no one can possibly say.

Does the detail of this limited number of cases not render it imperative on the part of the public to obtain some knowledge at least of the ills that flesh is heir to, so that they may be enabled to exercise their judgment to some extent instead of blindly conforming to the dicta of their medical advisers? Doctors will tell you it is very wrong—nay, suicidal—to read books on medicine, as “a little knowledge is a dangerous thing ;” and so it is, as is too frequently demonstrated, a very dangerous thing indeed. It would be difficult to estimate the number of painful incidents where this is exemplified, unfortunately to the cost of the long-suffering patient, who places his health and prospects of longevity in the hands of an ignoramus, whose ignorance is all the more dangerous because it is invariably glossed over by a veneer of plausibility which in itself is imposing. It is in circumstances of this description that a little knowledge proves so dangerous, and it is to counteract this that I would urge upon every man and woman to become acquainted, to as great an extent as possible, with the symptoms and treatment of disease. To assist in the acquisition of this knowledge is the object this book has in view. It will resolve itself, therefore, into a matter of choice whether it is preferable to die the death of a suicide or at the hands of a homicide? In either case it is most desirable that a man should be possessed of sufficient knowledge to discern when his medical adviser is conducting him on wrong lines, and at the same time to display the fortitude to tell him so, and insist on further advice. In carrying out this injunction let me impress upon my reader on no account to be influenced by the present attendant, but to

indicate yourself the consultant you would prefer, and insist upon having him and no other. Furthermore, send for him yourself, and tell him you wish his independent and unbiassed opinion. It is only by acting in this manner you will ever receive satisfaction, and even then it may be difficult to obtain, so much is one man in fear of another, and so great is the overawing influence of this relentless and merciless Juggernaut, "medical etiquette."

Let me now address a word of caution to the clergy and other well-intentioned people, who, when a death occurs, immediately lift up their hands, and in their religious fervour exclaim, "It is the Lord's will," when it is no such thing. The Almighty has ordained laws which, when broken, bring about disease; but He has also given us the ability to cope with disease by what is termed the *vis medicatrix naturæ*, supplemented by the employment of remedies which He has provided to assist this healing power of nature. Now, if you find a patient suffering from a spasmodic condition of the bowels, or, in plain words, a colic, due most likely to some error of diet, no man in his senses, and who knows how to exercise these, would pronounce this to be inflammation of the bowels; yet I can assure my readers I have frequently heard this *diagnosis*, the consequence being that the patient is tortured with fly blisters and made an invalid for days, while his strength by this maltreatment is so far reduced as to require several more days to recover its normal condition; whereas, if the symptoms had been interpreted aright, a dose of castor oil and laudanum administered, and a hot fomentation applied over the seat of pain, these would have disappeared in as short a time as it would take a blister to rise. I could detail scores of such cases of *mal praxis*; but really one becomes sick and disgusted in thinking of them. Does it not behove every one, therefore, to utilise the means at his disposal of enlightening his mind upon that all important subject—the conservation of his own health?

Before concluding, let me impress upon my readers the advisability of exercising great caution and hesitation in going to so-called specialists and placing themselves indiscriminately in their hands. As a rule, the dupes will find themselves minus a

good few guineas, and no better for the routine treatment which they undergo. I do not wish to be too severe upon any branch of the profession, but I must confess I would like to see a little more honesty as well as humanity developed.

In carrying out my intentions, it will now be my endeavour, first of all, to pass in review what I consider the fundamental laws which regulate the observance of health, and afterwards to describe in detail the diseases which the various organs are subject to, and the most advanced methods of treatment advocated.

R. B.

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# THE DEPUTY PHYSICIAN.

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## CHAPTER 1.

NOTWITHSTANDING the various troubles, cares, and worries with which human existence is inevitably associated, the desire for long life would seem to hold a paramount place in the vast majority as an inherent part of their nature. Few are anxious to shuffle off this mortal coil prematurely, and when the wish does develop it is usually the result of the individual running counter to the laws of health. A great number by sheer negligence bring their lives to an untimely end (when their wish is far otherwise). Others, by inattention to ordinary hygienic laws, render their bodies predisposed to disease, and doubtless shorten their existence, at the same time inadvertently making the remainder of their lives miserable by their own folly.

It is doubtless very satisfactory to be able to talk about having a sound constitution, a powerful frame, and a good family history; but all these advantages put together will not ensure health and long life if the laws of nature are not carefully and religiously attended to and observed. How often we meet with individuals who are possessed of none of these so-called guarantees of longevity, who, in spite of a feeble constitution and a weakly frame, and possibly super-added to these a very unsatisfactory family history, live to a good old age, and during their lives experience a very fair amount of health and comfort of body.

The effects of over-indulgence either in food, stimulants,

or narcotics are too well known to be discussed in a book of this kind; my object is to bring to a focus the observations of thirty years of active professional life, and to indicate wherein lies the secret, if secret it be, of arriving at a healthy old age.

Few people of intelligence at this time of day are unaware of the pernicious effects which accrue from the neglect of sanitary laws. We know, for example, that diseases like cholera, diphtheria, typhoid fever, etc., all have their origin in disobedience to, or ignorance of, these laws. It is a well-established fact, though doubted by many, that these fevers do not spread by infection, but that the poisons must find their way into the system very much in the same manner that any of the organic or inorganic poisons are admitted, before they are able to produce their pernicious effects. The only difference is, that when the germs of the diseases referred to are taken into the system, they, by virtue of their vital powers, are able to multiply within the body, provided the vitality of the individual is reduced to a sufficient ebb before they obtain entrance into his economy. If, on the other hand, the individual is in robust health, his vitality, being greater than that of the microbe, will destroy it, and thus annihilate its power for evil. Such, however, is not the case with regard to mineral and vegetable poisons, whose effects are proportionate to the amount administered. We find that the escape of sewage gas into an apartment where it is inhaled by the inhabitant or inhabitants of that apartment superinduces disease, as it is impossible for anyone to retain their normal powers of resistance to disease if their blood is being vitiated by the absorption of noxious gases. It would appear, therefore, that to render a person susceptible to any disease, it is a *sine qua non* that his vital energy be primarily impaired by some cause or other, be these ever so varied, as they undoubtedly are. I would therefore aver that a person in perfect health cannot possibly be

affected by disease were he exposed, even for a lengthened period, to its influence. His system must, before he can contract disease, be prepared in some way or another for its reception. To discuss the various conditions which superinduce disease, with a view to ensure their avoidance, constitutes one of the chief objects of this volume.

For example, if a person sits in a draught of cold air for a length of time, this, playing upon the surface of his body, depresses for the time being the vitality of the part acted upon to a lesser or greater degree. The effect is that the tissues are rendered liable to congestion, through the results of the cold reacting upon the nervous apparatus which controls the calibre of the blood vessels, so that when the nerves are enfeebled their power of retaining the blood vessels in a healthy condition ceases. These then become relaxed and engorged with blood, which condition we term congestion or inflammation. Not only is the part directly influenced by the cold rendered prone to congestion, but from the same cause reflex nervous prostration is liable to occur; that is to say, nerves at a distance from the part actually subjected to the cold draught, but which are in connection through the medium of the various nervous centres, may have their functions prostrated, and thus give rise in a like manner to congestion of internal organs, or of mucous surfaces removed considerably from the part actually affected. In this way, inflammations of internal organs are frequently induced.

To illustrate my argument, take a case where the feet are wet, and in consequence become cold from radiation taking place due to the evaporation which naturally ensues, the whole body becomes chilled as a result of the blood having lost a considerable portion of its caloric in its passage through the vessels of the cold extremities. By this means the whole temperature of the body is reduced, and thus the nervous apparatus becomes debilitated, and its power of controlling the blood supply to the various organs is

seriously interfered with. The consequence is that a greater or less amount of temporary prostration of the functions of these organs ensues, and local congestions supervene, these invariably being accompanied by fever. This, in the first instance, produces serious constitutional depression, which enables the inflammatory mischief to gain a footing. Immediately upon this occurring a reaction sets in, and the temperature of the body becomes abnormally high. It is in this manner that a chill, arising from continuous exposure to cold (whether this is the result of sitting in a cold draught, wearing damp clothes, or having wet feet) gives rise to inflammatory affections of the liver, lungs, bladder, kidneys, or other internal organs.

It is, therefore, imperative that when any of these untoward circumstances have existed, immediate precautions be taken to remove damp clothes before the chilling effect has been produced. With this in view it may be necessary to put the feet into hot water for a few minutes, or to take a hot bath. By these measures evil consequences may frequently be averted, and the risks of a serious illness reduced to a minimum. It is a well-known fact that an individual may have his clothes saturated from head to foot with wet, yet he will not suffer any evil effects if he keeps the body in motion in order to sustain his caloric. On the other hand, were he to sit down and permit radiation to proceed to any extent, he will then become most liable to chill, and in the majority of instances suffer seriously from his lack of judgment.

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## CHAPTER II.

PERHAPS the most frequent and potent factor of disease *per se* exists in inattention to the daily *complete* evacuation of the bowels.

It is beyond question that if noxious gases are inhaled they produce a debilitated condition in an otherwise healthy individual by becoming absorbed into the circulation, thus deteriorating the healthy character of the blood corpuscles, and by this channel gaining access to and enfeebling the nervous apparatus. Now, we are well aware that the nervous system controls the various functions of the body; but being nourished by a vitiated blood supply it becomes unable to perform its functions in a satisfactory manner. Moreover, the character of the blood itself becomes changed, the red corpuscles (as has just been stated) suffering to a greater or less degree, according to the more or less poisonous character of the gases inhaled, and the length of time during which the individual has been environed by his unsanitary surroundings.

Such being the case with regard to outside influences, it will not be difficult to comprehend how absorption of foetid fluids from within the economy will produce results very similar to those just enumerated. If the bowel is permitted to remain loaded with faeces for an indefinite period, the deduction is only rational that the person who permits this unsanitary condition to continue is carrying about within his abdomen a decomposing mass which, to put it in the mildest form, is a most offensive thought.

When we consider the fact that after food is taken into the stomach, to complete its digestion, the assimilation of its nutritive particles and its evacuation, the various processes should occupy a space of twenty-four hours, and that the excreta should be of the consistence of well-made porridge, we can perceive that if the evacuation of this is delayed, and the faecal discharge is of a more solid consistence, a certain portion of its watery constituents must necessarily have been absorbed by the blood vessels, and thus carried into the circulation. This fact can be demonstrated in many unmistakable ways, *e.g.*, the faecal fluid circulating within the blood imparts an unhealthy

character to the blood corpuscles, and reflects itself in an unhealthy colouration of the skin. This faulty condition of the blood interferes with its healthy functions, and coldness of the feet, with a tendency to chilliness of the surface of the body, ensues.

Again, an unhealthy condition of the nerves arises from the same cause, inducing a hypersensitiveness of the nervous apparatus. This intensifies the tendency to chill, and interferes with the functions of the brain, stomach, and other organs. Depression of spirits and irritability of temper are the natural sequelæ of this condition of the nervous system. Other symptoms indicating faecal absorption are manifested, such as foetid breath, an unpleasant taste in the mouth, disturbed sleep, and want of refreshment from the sleep that is obtained. If this condition of things is permitted to continue, the health of the blood becomes so much interfered with that a great number of its red corpuscles are actually destroyed, resulting in anæmia, a disease so frequently observed in young women of a constipated habit. Anæmia, and the more pronounced form of blood degeneration, which is termed chlorosis, or green sickness, are simply grades of the same disease, which morbid condition is centred entirely in the blood corpuscles. Perhaps it would be more explicit to say that a morbid condition of the blood is developed which destroys not only the healthy character, but proceeds to such an extent as to reduce the vitality of these blood cells, thus resulting in the death of a large number, and consequently producing a deficiency of those highly important bodies. The healthy colour of the individual, which depends entirely upon the integrity of the blood, suffers, and a pallid or greenish complexion of the skin ensues. This pallid appearance is always more apparent in the lips and mucous membranes than in the skin itself. In consequence of the vitiated, or, might I say, the diseased condition of the blood, the health of the walls of the veins becomes deteriorated. As a

consequence there is a tendency on the part of the fluid constituent of the blood to become effused, within the cellular tissue, followed by a dropsical condition of the limbs, superadded to a tendency to bleeding from the mucous surfaces, such as the nose, mouth, throat, and bowel. These symptoms are accentuated by the fact that the whole muscular system of the body, including that of the heart, loses tone. In this way greater pressure is brought to bear upon the walls of the already enfeebled veins, giving rise in some cases to rupture, in others to dropsical effusion from hydrostatic pressure. Ulcer of the stomach is frequently due to this condition of the blood, being induced by a faulty nutrition of the organ, accompanied by a tendency to venous congestion, consequent upon the enfeebled heart being handicapped. In consequence of malnutrition, due to the above cause, fatty degeneration of the walls of the arteries, as well as of those of the heart, is liable to supervene, and may result in apoplexy, aneurism, or sudden failure of the heart's action. Bright's disease of the kidneys, and degeneration of the liver, can also be directly traced to this condition of the blood.

The foregoing remarks have special reference to diseases which manifest themselves most distinctly in the female, with the exception of those applying to the change which takes place in the arteries, heart, kidneys, and liver. It may be asked, Why should these blood affections prevail more in one sex than in the other? This can only be explained by the fact that the constitution of a female is more delicate naturally than that of a man; and, secondly, that there are more important changes going on within her economy than in that of the opposite sex. Then, again, it must be borne in mind that boys, as a rule, are very much more attentive to the ordinary laws of health than girls, and especially is this the case with regard to that important daily event, the evacuation of the bowels. Still, if boys do suffer

from blood contamination, due to constipation, it affects them somewhat in a similar way by producing a sallow complexion, lethargy, nervous disorders, which frequently culminate in convulsions, St. Vitus' dance, rheumatic fever, etc., also in febrile seizures, which closely resemble enteric fever, the latter, as a rule, being ushered in by acute feverish attacks during the night, night terrors, or disturbed sleep, and a feeling of intense weariness in the morning, accompanied by a lowering of the temperature. In other instances, tuberculosis or other latent diseases have an unwelcome activity developed, and it is thus mortality amongst boys is largely accounted for. It certainly does not affect boys in the identical manner that it does girls; at the same time, any observer will be able to satisfy himself that the causes which develop anaemia in girls have also a most pernicious effect upon the health of boys.

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### CHAPTER III.

THE health of the blood, which as a matter of fact resolves itself into the health of its corpuscles, would seem to depend entirely upon its freedom from the products of decomposition from within, or from imbibing foul gases from without. We know that it is impossible for decomposition to take place in a healthy vital fluid ; the vitality of the blood must therefore, before such a contingency can occur, in the first place be interfered with, and its physiological character departed from to a very marked extent. Opportunity must be imparted to it of absorbing toxic matter, or, on the other hand, some interference must exist to its getting rid of the disease-producing material, the effects of which will invariably act injuriously upon the individual. It is an indisputable and well-known fact, that were the lungs unable to discharge the carbonic acid with which the venous

blood is loaded when it arrives at the capillary vessels of these organs, death from suffocation would speedily ensue. It must not, on the other hand, be overlooked that the lungs do a very great deal more for the human economy than eliminate carbonic acid and absorb oxygen, and thus by their healthy action sustain life. They also discharge the products of decomposition to a very large extent, as can be readily detected by the foetid breath of individuals who are suffering from prolonged constipation. It is beyond dispute that when the faeces are retained for an undue length of time within the colon, the watery portion of these discharges is absorbed by the mucous membrane of the bowel wherein the retained faecal matter has accumulated, and this gives rise to a vitiated state of the blood. This is indicated not only by the dusky appearance of the skin in an individual thus affected, but by the lethargy, depression of spirits, irritability of temper, frontal headache, disagreeable taste in the morning, offensive breath, cold extremities, lack of appetite, and other symptoms which invariably accompany this unhealthy condition of the bowels.

A great many explanations have been advanced to clear up the causation of these symptoms, but they were in the year 1880 accounted for and explained in a paper which I contributed to the *Lancet*, and which at that time was commented upon very universally. In 1887, the late Sir Andrew Clark published a paper in that journal on the same subject, and almost reiterated the statements that I made in the paper I refer to, without so much as recognising the author. The following is an extract from the *Lancet* of my paper, published February 14th, 1880, and entitled, "Constipation viewed as a Disease *per se*, and as an exciting Cause of Disease":—

"If we remember the power that the colon possesses of absorbing fluids (which numerous experiments place beyond a doubt), we do not require to ask an explanation as to the

disappearance of the watery constituent of the stools in subjects suffering from constipation. I have heard it stated by a lecturer on the practice of medicine, that 'it was quite compatible with health to go a week, or even longer, without having an evacuation of the bowels'—that, in fact, it was all a matter of habit. Now, my observations go entirely to disprove such statements; moreover, such remarks are most apt to lead a student to look upon constipation as quite a trivial matter. If he does so, he will doubtless find that he has a great deal to unlearn, as he will have to discover that quite a host of complaints in every period of life may directly or indirectly take their origin in this abnormal condition of the bowels, and in very many instances the symptoms as a whole can be distinctly traced to and proved to be altogether dependent upon this morbid condition. How is it that a smart purge and a thorough clearing of the primæ viæ have such a beneficial effect when one is feeling out of sorts?

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## CHAPTER IV.

"ONE rarely begins the treatment of any disease without being first satisfied as to the state of the bowels, and endeavouring to rectify any sluggish condition that may be present. A purgative will probably be given if there is constipation, and yet in numberless instances purgatives may repeatedly be given without having the effect of clearing away completely scybalous matter from the lower bowel. When constipation has continued for a lengthened period, the colon becomes distended, and its sacculæ attain a greater capacity. The gut loses its tonicity, and consequently its power of contracting upon and expelling the fæces is reduced very materially. Thus we find that patients when asked if they have a motion of the bowels

every day, though they may insist that they are quite regular in this respect, yet on close questioning are led to confess that they never experience that sense of complete relief that they should always be conscious of after a satisfactory stool. On the contrary, a desire to sit on the w.c. and endeavour to void more faeces continues to be felt. It will also be found that such individuals always complain of the faeces being lumpy and difficult to pass. Others, again, will inform you that, so far from their bowels being constipated, they have frequent attacks of diarrhoea, but it will not be difficult to discover that such attacks are invariably preceded and followed by constipation; moreover, that the diarrhoeal evacuations contain hard pieces of feculent matter, often described as pellets.

"How are these little attacks of diarrhoea to be accounted for? That it is not diarrhoea in the ordinary sense of the word is apparent to the careful observer, as the stools are small in quantity, and do not repeat themselves with the persistency that is generally a symptom of diarrhoea in its true type. This form of diarrhoea, moreover, occurs most frequently in the morning, or immediately after a meal, often necessitating the patient rising out of bed and going to stool; indeed, there is no choice, as the desire is so urgent. This is characteristic of looseness of the bowels, due to the presence of hardened faeces in the colon. There may be two or three such stools before breakfast, and the probability is that there will be no more during the remainder of that day. Another characteristic of these stools is that they possess an extraordinarily offensive odour.

"It is quite evident that what we have to deal with at present is a 'looseness' of only a limited portion of the intestine, which is due to the irritation produced by the presence of hard masses of scybala in the colon acting as an irritant on that portion of the bowel, and producing a catarrh in their immediate vicinity. The mucus which is

excreted from the mucous membrane then acts as a solvent to a portion of the scybalous matter. At the same time a partial disintegration of it takes place ; and so we find that the stools in this intermittent kind of diarrhoea always contain innumerable small pieces of hard fæces. In such attacks it must, of course, be worse than useless to employ the ordinary treatment of diarrhoea by opiates or astringents. The removal of the cause must be aimed at, and hence the importance of a correct diagnosis.

"It will be generally admitted that when the fæces descend into the colon they are of a soft consistence. They are *not* hard and dry. What has become, then, of their watery constituents when they have been transformed into hard scybalous masses? Sometimes so difficult to pass are they, that an evacuation of the bowels in such circumstances may actually produce more suffering than the pains of labour, and, as I have frequently observed, may really bring on premature parturition. I would repeat—What becomes of the watery portion of the fæces in these circumstances, and what is its effect on the general system, especially upon the nervous apparatus, if the hardened matter remaining is retained within the bowel ? We have not far to look for an answer to the first part of the question, when we are cognisant of the capability of absorbing liquids which the large intestine possesses. The fluid most assuredly finds its way into the blood, and thus of necessity produces a form of blood poisoning which may be aptly termed 'Auto-toxæmia.' We note the following effects produced by the absorption of such foetid matter :—The red corpuscles become diseased, which is indicated by their becoming altered in colour, diminished in numbers, and having their carrying power lessened. Thus a sallow complexion results, dark rings appear below the eyes, where the skin is thin and transparent, the limbs and extremities are cold in consequence of oxygen being supplied in diminished quantity. There is a feeling of lethargy due to the blood being

vitiated and the corpuscles enfeebled. Consequently the system ceases to be sufficiently nourished, and there is a falling off in flesh. Then the diseased blood supply circulating through the nervous system induces nervous depression, which co-exists. The pulse becomes slow and easily compressed. There is a feeling of numbness in the extremities, the organs of digestion and assimilation are lowered in tone. There is loss of memory, and a want of power in concentrating the thoughts; a heavy drowsiness supervenes, which never seems to be removed by what appears to be really sound sleep, and all the functions of the body are carried on in an unsatisfactory manner. We will find, too, that the patient becomes tired and exhausted without sufficient cause. Then there are numerous local symptoms produced by the presence of scybala in the colon, which very often are erroneously attributed to innocent organs. Among these may be noted most acute pain on pressure over the situation of the hardened matter, and so severe may this be that it may simulate peritonitis.

"If it occurs in women, we often observe, as a consequence, ovarian neuralgia, this being excited by the irritation conveyed to the ovary by the presence of scybala in its immediate neighbourhood, while a predisposing cause exists in the lowered nervous tone consequent upon blood-poisoning. Frequently there is acute pain complained of over the ileo-caecal valve<sup>1</sup>, and in many, if not the very great majority of instances, typhlitis<sup>2</sup> is a direct consequence of the irritation produced by scybala lodging in this cul-de-sac. Irritability of the bladder is another local symptom frequently resulting from a similar condition of things in the immediate neighbourhood of the organ. Displacements of the uterus may be, and are, frequently caused by large accumulations in the rectum, and in every

<sup>1</sup> Ileo-caecal valve is situated at the junction of the small and large intestine.

<sup>2</sup> Inflammation of the caecum is termed typhlitis.

case are very much aggravated by such a state of matters. I have seen cases where an accumulation of this kind has been mistaken for pregnancy, and at other times where it has been mistaken for an ovarian tumour.

"A very constant effect of this condition is the prevention of refreshing sleep at night. The patient invariably complains of being annoyed by unpleasant dreams, and nightmare is a frequent symptom of this torpid state of the bowels. It will invariably be ascertained that there is no refreshment from sleep—in fact, the remark is generally made that he or she is more tired in the morning than they were on going to bed. In many cases I have found the temperature of the body rising at evening and falling again towards morning, so much so that typhoid fever has been suspected as the cause, the suspicion resulting in a wrong diagnosis. If children are the sufferers, a whole train of ailments may result, such as languor, fickle appetite, feverish turns at night, disturbed sleep, grinding of the teeth, sallow complexion, irritability of temper, night terrors, cold extremities, etc.

"In a careful perusal of the most recent works on the practice of medicine, I cannot find in one of them the subject of constipation gone into *per se*, and even where it is mentioned as a concomitant of other diseases, it is barely glanced at. This is all the more strange, as it is beyond doubt not only a disease having a most enormous train of painful symptoms, but becomes a predisposing cause of quite a host of other ailments."

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## CHAPTER V.

ANOTHER important point to observe with regard to chronic constipation is the distention of the bowel, which naturally ensues from the fact that it has been continuously overloaded. This distention in time culminates in an actual

stretching of the coats of the bowel, which renders them less capable of expelling their contents, and the effect inevitably is what I would designate a paresis, or temporary paralysis of that portion of the gut. In short, the muscular coat of the bowel becomes unduly stretched, which results in inability to expel its faecal contents. In fact, it has become weakened to such an extent that it is quite powerless to perform its proper functions. Notwithstanding this change that has taken place in the walls of the intestine, judicious management will enable it to recover its usual tone and healthy condition. Until, however, its health has been restored, the bowel will be quite unable to discharge its contents with sufficient rapidity and efficiency. Absorption of faecal matter will therefore supervene, producing what I have designated auto-toxæmia. At the expense of repeating myself, as I have before indicated, this blood-poisoning has a most pernicious effect upon all the functions of the body, consequent upon the nervous apparatus being supplied by a vitiated blood current. The blood corpuscles have their vitality impaired, and they perish in large numbers, thus giving rise to the pallor which is characteristic of anaemia, and also to the greenish hue which is imparted to the skin in chlorosis or green sickness, this discolouration being entirely dependent upon the altered character of the blood corpuscles that have survived. In consequence of the deterioration of the health of these bodies, what are left of them are incapable of performing the functions allotted to them, and, as a result, the oxygenation of the blood is incompletely performed, which again reacts prejudicially upon the nervous system. The symptoms which invariably are so prominent in this disease are thus easily accounted for—viz., coldness of the extremities, breathlessness on the least exertion, palpitation of the heart, frontal headache, neuralgia, depression of spirits, irritability of temper, and liability to any latent disease. The menstrual functions also become deranged, as the normal hyperæmic

condition of the sexual organs, which in health asserts itself at this period, is liable to be absent, and vicariously gives rise to a pathological condition of distant organs and membranes, such as the stomach, lungs, mucous membrane of the nasal passages, bladder, etc., and thus we have, if not complete cessation of the menstrual discharge, a vicarious haemorrhage from the surface of any of these organs.

It has been remarked by writers on this subject that we do not find anaemia and chlorosis occurring in males to the same extent that it does in females. In reply to these, I would remind them that we do not find menstruation occurring in the male sex. Indeed, it is not difficult to comprehend why anaemia confines itself, so far as the particular development of symptoms go, to the female sex, knowing as we do that the nervous apparatus of the latter is so much more finely balanced than that of the former, and it should also be remembered that the vascular system in the female is subjected to many more vicissitudes than ever existed in the opposite sex. Considering, then, the peculiar sensitiveness of the nervous system in females, it is only rational to conclude that they are very much more easily influenced by any toxic condition of the blood than males are. In consequence of this, the nervous apparatus, upon which the various organs of the body are dependent for the healthy performance of their functions, is more readily upset, and therefore the health of these organs is *pro rata* deteriorated.

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## CHAPTER VI.

IT should be borne in mind that the nerves are the driving power, so to speak, of all the organs of the body, and when this is reduced in quantity and quality the loss of energy is immediately reflected on the body at large. The same reasoning with regard to the effects upon sex may be applied

to the blood corpuscles, which are evidently more easily influenced by toxæmia<sup>1</sup> than is the case in males. Now we know that iron has a most powerful influence in restoring the blood to its normal condition. It has been argued by one writer that iron cures anæmia and chlorosis by its astringent action alone, which is exerted upon the vessels of the alimentary canal, but evidently he has overlooked the fact that iron is a most important constituent of the blood. But iron will not act beneficially as a blood restorer if the bowels are constipated. It is always advisable, therefore, to combine it with a slight laxative, such as aloin in small doses. Doubtless, resuscitation of the blood corpuscles can be accomplished without the direct aid of iron, numerous tonics having been found most efficacious in the treatment of anæmia and chlorosis ; but it must be remembered that while the tonic action of the drugs employed is being exerted the blood is simultaneously imbibing pabulum from other substances which tends to promote restoration to its health. But even iron, as I have remarked, will only have a temporary effect if it is not combined with some substance which will, during its administration, exert a laxative effect upon the colon, or if this portion of the bowel is not regularly emptied by means of enemata administered every twenty-four or forty-eight hours. Indeed, with a view to prove my hypothesis of constipation being a direct cause of anæmia, I have treated some cases solely by enemata without the aid of iron or any other medicinal blood restorer, and although the progress was more slow than if iron had been administered simultaneously, the patients so treated completely recovered.

If what I have said with regard to auto-intoxication is correct, and I have proved this to be so in innumerable instances, then it stands to reason that if the paresis, or slight temporary paralysis, of the colon is not removed

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<sup>1</sup> Toxæmia. or poisoned blood.

simultaneously with the treatment by iron, the disease will soon reassert itself.

Anæmia is invariably connected with a highly sensitive condition of the vaso-motor nerves. This is evidenced by flushing, which so readily takes place in anæmic girls on the slightest provocation. If the tone of the arteries and arterioles improves, this will indicate that the condition of the blood is also improving; and therefore it is fallacious, from my point of view, to conclude that contraction of these vessels *per se* exerts a beneficial effect, because their tonicity is only coincident with the removal of the unhealthy condition of the blood. If we study the subject of anæmia and chlorosis closely, we will find that girls of a nervous temperament are very much more liable to this disease than those who are not so sensitive in their natures. This goes to demonstrate that the latter, in consequence of their more robust nervous apparatus, resist the disease to a great extent; but I must insist that this circumstance will never give immunity if the cause which I have pointed out obtains for an undue length of time.

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## CHAPTER VII.

THE component parts of foodstuffs which go to make up the dietary of an individual contain all the elements which are necessary to supply the various constituents of the blood, as is evidenced by the rapidity with which it is recuperated after serious hæmorrhages, from whatever cause. If then, in cases of anæmia or chlorosis, our attention is solely directed to the daily *complete* evacuation of the colon, anæmia, in the large majority of cases, would recover without the aid of any other treatment. I would not, however, for a moment aver that the recovery would be so rapid as if iron had been prescribed in addition.

At this juncture, I would like to state as my conviction that no one, however extensive his experience, will make me believe that he ever came across a case of ideopathic anaemia which was not accompanied, and had not been for a long time preceded, by habitual constipation. I would go much further even than this, and insist that they have not even observed a case of acute rheumatism or gout which had not been preceded and accompanied by a constipated condition of the bowels. Remember, I do not invariably accept a patient's statements as altogether correct when he or she says that his, or her, bowels are perfectly regular because there has been a daily evacuation. Frequently, I repeat, I see patients who assure me that their bowels are regular in their action, but in many instances I discover by circumstances that the lower bowel is loaded with hard scybalous lumps. This sluggish condition of the colon and rectum, in such cases, is the cause of all the painful train of symptoms from which they suffer, and I have no doubt that when they follow my directions to use an enema of one tablespoonful of common salt dissolved in three breakfast cupfuls of warm water at least once in forty-eight hours, all the painful symptoms of which they were the victims will rapidly disappear.

The physician ought to examine the stools for himself, and ascertain if they have not been retained for an undue length of time before their evacuation. An accurate knowledge upon this point can be readily arrived at by observing their consistence and general appearance. Assistance in gaining correct information at this juncture may also be obtained from the patient himself, who will probably inform you that, although he has a motion of the bowels every day, he never experiences that feeling of complete relief which should accompany this act, but that there remains a sensation as if there were something more to come. This symptom invariably points to the fact that the bowel is not *completely* emptied, and consequently only a very unsatis-

factory evacuation has been procured. Other patients will assert that their bowels are moved every day—in fact, that they have diarrhoea. On closer investigation it will be ascertained that this so-called diarrhoea is intermittent with a period of one, two, or three days' constipation, and that when the liquid stools are evacuated there is always a desire to sit, as if the bowel had not obtained sufficient relief. Moreover, when the desire to go to stool under such circumstances exists, the call is imperative and will admit of no delay. This condition of things, however, has been commented on in a former part of this book, viz., that which is reproduced from the *Lancet* of 1880. As has been before stated, this kind of diarrhoea points to the fact that there is a portion of the colon, at a very short distance from the rectum, which is loaded with hardened faeces, and it is the exciting influence of this hard mass which induces an irritability of the bowel, producing in this portion an amount of catarrh which gives an intermitting fluidity to the stools. If the evacuations in these circumstances are examined, it will be ascertained that they contain pieces of hardened faeces, which have broken off from the main scybalous mass above, and this points plainly to the fact that there is undue retention within the colon. Under these circumstances purgatives are not nearly so beneficial as enemata. These, however, should be continued systematically for a considerable period, even after all apparent source of mischief has been removed, as in consequence of the long-continued retention of the impacted matter within the colon, the muscular coat of the bowel has become enervated and unable to act of itself. This paresis, however, as has been more than once stated, can be very much benefited by medicinal measures.

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## CHAPTER VIII.

A WRITER who tries to trace the cause of anæmia to another source than that which I have endeavoured to prove to be the true *casus-morbi*, speaks of a patient who suffered from anæmic attacks which appeared to correspond with bilious attacks, and which he calls the uric acid storms; that is, he means to associate biliousness with the formation of uric acid in the blood, forgetting that the development of this rheumatic acid is invariably associated with constipation, and therefore, to my mind, is entirely dependent upon the absorption of nitrogenous material from the bowel. I would like to ask, What is the correct definition of a bilious attack? Does it mean, in every instance, that the blood is surcharged with bile? Most certainly not; it simply points to the fact that the blood is charged for the time being with some toxic material, this, in ninety-nine cases out of one hundred, having been absorbed from the colon. Of course it goes without saying that the liver, like all the other organs of the body, must sympathise with such a condition of things; but to imagine that the liver is the primary cause of so-called bilious attacks, to my mind, is the height of absurdity. If we examine the urine of persons suffering from obstinate constipation, we will ascertain beyond a doubt that it is charged to a large extent with uric acid. Where does that uric acid come from? Is it manufactured by the blood from its own constituents, or is it a chemical product resulting from the nitrogenous material absorbed from faecal matter? The latter is the view which I have been compelled to adopt, and this conclusion has only been arrived at after very careful and prolonged observation. It is all very well to theorise with reference to its production and the source from which it is derived, but we find innumerable instances where assimilation is not complete, and yet uric acid does not exist;

whereas a diseased condition of the blood, which the author I have referred to designates uricacidæmia (or, to put it in plain language, blood saturated with uric acid) is invariably accompanied by a sluggish action of the colon. When the blood thus becomes charged with uric acid, the kidneys, as we are aware, endeavour to excrete this foreign matter, but in numberless instances they become so overtaxed that they are quite unable to perform this scavenging duty efficiently. In consequence of their inability to clear the blood of this toxic matter it is liable to become deposited in certain parts of the body, and rheumatism and gout are the direct results. Urates, which are salts of uric acid, we are well aware, are soluble in warm fluids, and this being the case they are held in solution by the blood as long as it retains its normal temperature; but we will invariably find that in the regions where rheumatism finds its habitat the vascular supply is meagre, and the temperature therefore low, as in the cartilages and synovial membranes of the joints, etc.—viz., exactly in those structures where the temperature is normally lower than elsewhere. Then, again, we are well aware that an explosion of gout, which we have every reason to believe is due to a deposit of these partially soluble salts within the affected joints, usually takes place when the normal temperature of the body is at its lowest—viz., between three and four o'clock in the morning—and, moreover, at points farthest removed from the heart, and where the temperature of the blood is consequently lower than elsewhere. This lowness of the temperature is thus to an extent further reduced under these circumstances, because the vascular supply is at its minimum at these hours in the tissues attacked, and hence the deposit takes place in the joints and gives rise to gout and rheumatism.

It may be asked, however, How do the swelling and inflammation arise if this theory be correct? This is easily explained by the fact that the presence of a foreign body in any tissue, in consequence of the irritation which it

gives rise to, sets up acute inflammation, and therefore acute pain, this being nature's method of dealing with such cases in its endeavour to eliminate the poisonous matter.

The same writer goes on to observe that, as a result of his experience in a large number of cases of chlorosis or anaemia in young women, there was more or less dyspepsia, or even a bilious attack, occurring especially at the menstrual periods. Now, as has been before remarked, we are perfectly well aware of the fact that at the menstrual period the nervous apparatus of a woman is in a very much more sensitive condition than at any other time, and is especially at that epoch prone to be prejudicially influenced by a toxic condition of the blood, while the dyspepsia and the so-called bilious attacks are, as I have before indicated, due to one and the same cause. It is quite an impossibility for anyone, male or female, to enjoy good health who carries about for days together within his colon a decomposing mass which is constantly giving off foetid material to the blood, and loading the circulation with poisonous matter, in short, giving rise to blood-poisoning, very much in the same way as constantly inhaling poisonous gases would do. Did this absorption of toxic material not deteriorate the health of the individual, it is very possible, nay, very probable, that uric acid circulating in the blood would be unable to produce the baneful effects which we give it credit for, no more than a person in perfect health would contract typhoid fever were he to take into his system fluids containing the germs of this disease. But when uricacidæmia co-exists with a depraved condition of the health, it is not surprising that it predisposes to anaemia, chlorosis, rheumatism, gout, etc., and acts as an exciting as well as a predisposing cause to disease in general.

It has been stated that uric acid taken pure by the mouth passes straight into the blood. I would ask, Will it

not likewise pass in a similar manner from the bowel, as doubtless it does ?

On reading the foregoing remarks it will not be difficult for anyone to bring to a focus the conclusions which the author has arrived at—viz., that constipation is quite incompatible with health, and health in every instance is essential to the combating and throwing off of disease ; therefore, if health be maintained by the simple precautions which have been advocated, longevity will be a natural consequence.

In conclusion, it may be added that there are few, if any, cases of even very chronic constipation that cannot be remedied by medicinal and hygienic measures combined.

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## CHAPTER IX.

HAVING taken a general view of the rules, the observance of which are necessary to the maintenance of health and the prevention of disease, I now propose to take a survey of the more important diseases which may attack the body, from the head downwards. When I employ the word important I do not mean to infer that in every instance the diseases referred to are imminent to life ; their importance may be due to the discomfort or disfigurement which they produce, and to indicate what I mean I will take for the first subject that of *Baldness*. This affection has always been one which has been taken advantage of by quacks, whether these belong to the medical or tonsorial professions. When once general baldness has been established the growth of hair can never be restored, for the simple reason that the hair bulbs have become atrophied, or in other words, have become shrivelled up, and therefore have not the power to produce hair. When microscopically examined, a hair bulb resembles very much in appearance the bulb of a hyacinth, the hair proceeding from its centre and deriving

its nourishment and growth very much in the same way that the flower of a hyacinth does. Moreover, the hair may be looked upon more as an extraneous growth than as a part of the living organism. This is demonstrated most forcibly by the fact, that the hair will continue to grow even after the death of the individual. When the hair bulbs, therefore, are destroyed, as they invariably are in the event of baldness occurring, they are not capable of restoration. The reason that the hair bulbs atrophy is, in the majority of instances, due to the scalp becoming closely adherent to the skull, which interferes with their nutrition, and thus they are deprived of nourishment. In other instances, the falling off of the hair is due to a disease produced by the invasion of the bulbs by a fungoid growth. In this event the fungus also exerts a destructive effect. There are, however, certain forms of baldness occurring in patches which may be recovered from. This is termed alopecia areata, and is generally consequent upon prolonged strain of mind. The patches will generally be found distributed over limited areas, corresponding to the distribution of certain sets of nerves, showing unmistakably that they are due to a debilitated condition of those nerves which control the nutrition of the parts. On the removal of this nervous prostration, as a rule, the growth of the hair will be re-established and the baldness disappear, although the hair may assume either a difference of colour, or even an absence of colour on its restoration. This demonstrates most clearly that the hair bulbs themselves are under the control of the nervous apparatus.

The various diseases that may attack the hair bulbs will be treated of under their distinct classification further on in the book. With reference to baldness as it usually exists, I would point out that, although it cannot be cured when it once has become a fact, yet there is no doubt it can be averted, and this by judicious massage applied to the scalp every day, so as to prevent its adhesion to the skull. This

treatment can be effectively carried out by a free use of soap and water, together with hard rubbing by the fingers at the time of the morning bath, after which the hair should be thoroughly dried by the free application of a Turkish towel. A great many people, led, I believe, by the absurd dogmas of hairdressers, will tell you that it is very bad to wash the hair too frequently. I would reply to that by asking if the frequent washing of the whiskers and beard, followed by a judicious use of the towel, ever has been known to prevent the growth of the hair on the face? Certainly not, and the same beneficial effect will follow a like treatment of the hairy scalp.

In certain debilitated conditions of the system, more especially those which follow attacks of fever, the hair bulbs become enfeebled to such an extent that the hair drops off in large quantities. This, although not coming under the category of baldness, yet is so closely allied to it that it would not be out of place to indicate the treatment that might be adopted with a view to stimulating the vitality of the enfeebled bulbs. In such circumstances it is always wise to have the head shaved, and the process repeated at intervals of two or three weeks. At the same time, a slight stimulant should be applied once in the twenty-four hours. A good wash for the purpose is the following:—Perchloride of mercury 2 grains, spirits of wine 1 drachm, almond oil 1 ounce, glycerine of borax 1 ounce, lavender water 6 drachms, tincture of cinchona bark 2 drachms, bay rum add to 8 ounces.

With a view to keeping the hair in a healthy condition, I would strongly recommend that it should be vigorously brushed at least twice a day.

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## CHAPTER X.

*Headaches* vary very much in their nature. The most important, because it is the most dangerous, is that form of headache which is intensified by the least movement of the body, or even by vibrations of the bed in which the patient is lying, caused by a person walking across the floor. This is generally accompanied by inveterate vomiting, and is a sure indication of an inflammatory condition of the membranes of the brain. No time should be lost in seeking competent advice in such circumstances. Other forms of headache are due to the condition of the blood, and are, as a rule, associated with constipation. The attack is generally severe while it lasts, and renders the patient quite prostrate. It is commonly associated with a highly nervous temperament, and usually passes off after a refreshing sleep. This form of headache can, as a rule, be relieved by ten grains of phenacetine taken dry upon the tongue and washed over with a drink of cold water, but its recurrence should be guarded against by ensuring a daily complete evacuation of the bowels. It is usually frontal, and is accompanied by a bad taste in the morning, a fickle appetite, a feeble digestion, cold feet, and a general feeling of sensitiveness to cold all over the body.

Neuralgic headaches, which are of a lancinating character, and generally confined to one side of the head, and are also intermittent, are, as a rule, due to a low state of the system, and require treatment by tonics and a liberal diet. These are generally associated with a neuralgic condition of the body and are frequently combined with indigestion.

The *Throat* is the seat of many diseases, the diagnosis of which is most important, as frequently an early correct diagnosis may be the means of saving not only an immense amount of suffering, but also life. If the sore throat is accompanied or preceded by vomiting, and the tongue

presents a strawberry appearance, we may look for an attack of scarlet fever. If the sore throat is preceded and accompanied in its first stages by a low lethargic condition of the system, and patches of white or yellowish-white colour appear on the tonsils or fauces, we have every reason to suppose that diphtheria is imminent. If there is great difficulty in swallowing, and the tonsils are enlarged, and these symptoms are accompanied by neuralgic pains throughout the system, a quinsy may be anticipated, and may very possibly be checked by anti-rheumatic remedies, as no doubt this is a rheumatic affection of the tonsils. My plan in such circumstances is to give the following mixture, and in nine cases out of ten the results will be most favourable; indeed, in any form of sore throat which is accompanied by painful deglutition and a congested appearance of the tonsils, it will frequently, if not invariably, exert a most beneficial influence. For an adult, take  $2\frac{1}{2}$  drachms of chlorate of potash, the same quantity of salicine, which should be dissolved in 8 ounces of guaiacum mixture, a tablespoonful of which may be taken every two hours.

*Swelling of the Glands of the Neck* may be due to mumps, which, of course, is a disease limited to a few days. They may also be swollen in the course of scarlet fever, when it is most important to endeavour by means of soothing applications to get the inflammation reduced with as little delay as possible, as otherwise suppuration is very liable to supervene. A chronic form of enlarged glands, however, require more constitutional than local treatment, this form of disease being generally due to tubercular mischief within the glands themselves. My remedy in these circumstances is to endeavour to cure the tubercular taint by means of the muriate of calcium taken in conjunction with the syrup of the hypophosphites, or the syrup of the iodide of iron, while a mild solution of iodine in valsol should be gently rubbed in night and morning. Until this

method has been thoroughly tried, I would deprecate most strongly any surgical interference with diseased glands. In the large percentage of cases, the treatment which I have advocated will prove efficacious, whereas the use of the knife is invariably followed by ugly scars, and never succeeds in removing the disease of which the enlarged glands are only a symptom. Another form of enlarged glands of the neck is due to a disease of a different type altogether. I refer to goitre. This is an affection of the thyroid gland, which is situated in front of the neck. This disease is frequently accompanied by malnutrition of the body and an unhealthy state of the skin, nails, and hair. Its treatment is, of course, too complicated to be gone into completely in a book of this nature, but more information will be given when speaking of myxœdema and thyroid gland, which see.

*Affections of the Larynx* should always be viewed with a considerable amount of alarm, as the larynx is frequently the seat of tubercular disease, and not unfrequently of malignant growths. If, therefore, there is hoarseness, accompanied by a high temperature at bedtime, alternating with a lowered temperature in the morning, there should be no hesitation in endeavouring to ascertain the nature of the disease.

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## CHAPTER XI.

*Affections of the Stomach* are so numerous and so invariably accompanied by indigestion, that they frequently are treated as trivial complaints, whereas the results are often distressing, and in some instances very serious, if proper remedies are not resorted to. Let me advise my readers, therefore, not to delay in seeking relief. This is all the more important if the stomach affection is accompanied

by a falling off of flesh, or sallowness of the complexion. See article on dyspepsia.

*Diseases of the Lungs* are frequently most insidious in their attacks, and often attain alarming proportions from sheer want of care in the examination on the part of the medical adviser. In every instance where the breathing is affected, the temperature should be taken, and if this is found above the normal, the patient should immediately insist upon his medical attendant making a most careful and exhaustive examination. Pain in the chest does not, however, necessarily indicate disease of the lungs, as frequently a neuralgic affection of the intercostal nerves gives rise to pain closely resembling that of pleurisy, and I have known many instances where, had a careful examination been made both by means of the thermometer and the stethoscope, a great deal of suffering and unnecessary alarm would have been spared the patient and his friends, and a speedy cure insured, instead of having to submit to a process of blistering and exhaustive treatment, when the very opposite course should have been adopted. Be always suspicious of serious mischief if a cough is accompanied by expectoration, more pronounced in the morning than at any other period of the day, and when this is associated with falling off of flesh and a rise of temperature towards the evening, as these symptoms are most suggestive of tuberculosis. If this is accompanied by spitting of blood, the diagnosis is almost complete.

*Bronchitis* in its first stage is invariably accompanied by a hard, persistent cough, associated with a rasping sensation in the upper part of the bronchia, and by difficulty in getting up the expectoration, but afterwards by a copious flow of expectoration. It is important that an acute attack of bronchitis should be relieved as quickly as possible, especially in elderly people, as it is so liable to assume the chronic form, when it becomes almost intractable.

*Asthma* may be differentiated from bronchitis by the

simple method of observing the breathing of the patient. If the breath is more difficult to inhale than exhale, then we may look upon the case as bronchitis; but the reverse occurs, and expiration is more difficult than inspiration in cases of asthma. Now, as the treatment of the two varies so much, it is important that a correct diagnosis be made. A sharp lancinating pain on inspiration limited to a certain area of any portion of the chest, if it is accompanied by high fever, is always suggestive of pleurisy. If there is no fever, then it would indicate most probably pleurodynia or neuralgia of the chest. If the breathing is rapid, accompanied by high fever and a livid complexion, it is most probable that it is pneumonia that we have to contend with.

*Affections of the Heart* are usually indicated by breathlessness on the least exertion, severe palpitation, and a tendency to lividity of the countenance. Frequently, however, palpitation and breathlessness may be due entirely to a distended condition of the stomach, which by pushing up the diaphragm, encroaches not only upon the space that the heart ought to have to itself, but also upon the area of the thorax generally, thus limiting the movements of the lungs as well, and preventing their full expansion. If the palpitation and breathlessness are accompanied by a suffocating sensation, and by pain over the chest, with a feeling of impending danger, then heart disease is to be apprehended.

Breathlessness may also arise from an enlargement called aneurism, of the aorta, or main artery of the body. This is generally manifested by a severe gnawing pain in the centre of the chest, extending right through to the back, and frequently accompanied by a hard, inveterate, irritating cough.

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## CHAPTER XII.

*The Liver* is a large organ, but in my opinion a great many diseases are attributed to it which it is entirely innocent of. A great amount of what we are prone to designate as biliaryness is entirely due to constipation, which, of course, does react upon the liver to a certain extent, as it impedes the circulation through it. At times, however, as we well know, the liver is liable to very serious diseases, but these, as a rule, reflect themselves upon the character of the stools and also on the urine, so that it is not difficult to diagnose the nature of these diseases, if a careful examination by a competent authority be made.

In the abdomen, especially in the female, frequent errors of diagnosis are perpetrated. As these diseases will be treated under their individual heads, it will be unnecessary to enter into detail upon them at this juncture. There is one point, however, which requires careful attention, and that is, should a pain arise in either sex in the right side of the abdomen, and be limited in extent, and tender to pressure (especially in a person debilitated by over-work or nervous depression), very great care should be exercised in ascertaining whether the pain be due to inflammation of that portion of the bowel at the point where the small intestine empties itself into the large intestine. Should this be the case, the tenderness will be very acute, and the part excruciatingly sensitive to touch. There will also be present a considerable rise of temperature and general prostration. The inflammation may either be due to an irritant in an offshoot of the bowel, called the vermiform appendix, when it is termed appendicitis, or to infiltration in its immediate neighbourhood, when it is termed perityphlitis. That the disease is within the peritoneal cavity is sufficient reason that no time should be allowed to elapse before active treatment is resorted to, as

delay in such circumstances may prove fatal, and invariably will prove disastrous.

*The Kidneys* may be affected in a variety of ways, but one is not always to infer that a pain in the back indicates kidney mischief, as is, unfortunately, frequently pronounced to be the case ; and I am ashamed to say that medical men often, without any investigation, delude their confiding patients by making them imagine that the kidneys are affected when they are in no way involved. I have frequently come across patients who have told me that their doctor said they had inflammation of the kidneys when the source of their pain arose entirely from muscular rheumatism, the most common variety of which is lumbago. If the kidneys are the seat of acute inflammation this will be demonstrated by an examination of the urine, which, in the circumstances, will invariably contain albumen, while as accompanying symptoms there will be sickness and vomiting, a high temperature, and a dropsical condition of the subcutaneous cellular tissue of the face, body, and limbs.

Pain over the seat of the organs will also be experienced as a natural result of the inflammation. Pain, however, over the kidneys may be due to the presence of a calculus, or to a movable condition of the organ, designated floating kidney. This latter condition, however, is confined to people who are very much emaciated. Chronic affections of the kidneys may be unaccompanied by any of the above symptoms, with the exception of albumen in the urine, which is invariably observed when any form of kidney disease is present. The presence of albumen in the urine, however, is not always to be attributed to disease of the kidneys, but may, in some instances, be coincident with the process of digestion, or due to a faulty action of the heart, or disease of the blood-vessels. Whenever a puffiness of the skin which leaves an impression upon pressure with the finger, called pitting, and albumen in the

urine is present, immediate resort should be had to the best medical advice that can be obtained. Of course, albumen may find access to the urine without the kidneys being involved in the least degree, as the passage of a small calculus down the ureter, or the presence of a calculus in the bladder, or haemorrhage from the mucous membrane of the bladder, arising from many causes, will invariably result in the presence of albumen. If suppression of urine—which indicates complete loss of secreting power of the kidneys, generally arising from a very acute attack of inflammation of these organs—should exist, the greatest danger is to be anticipated, as death from blood-poisoning will speedily ensue. The great point, therefore, would be to use measures which would relieve the congestion, so as to enable the kidneys to resume their functions, and the most energetic measures must be resorted to to attain this end, such as blood-letting, inducing copious sweating and copious purgation. Frequently ignorant persons assume that if a deposit, generally of a brick-dust appearance, appears in the urine, disease of the kidneys is the cause of this, whereas it is entirely due to a faulty condition of the blood, arising from indigestion and mal-assimilation. A high coloured urine, alternating with a very pale urine, is frequently the result of nervous derangement, while a persistently high-coloured urine may generally be correctly attributed to derangement of the digestive and biliary functions. On the other hand, a persistently pale and copious secretion of this fluid, accompanied by excessive thirst and abnormal appetite, is suggestive of diabetes. In these two latter forms of abnormality the powers of the kidneys are (as can easily be inferred) overtaxed to a degree which may eventually lead to their becoming seriously diseased.

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## CHAPTER XIII.

*The Bladder* is frequently the seat of disease which fortunately, in the present state of medical science, can not only be readily and accurately diagnosed, but also successfully treated. The principal symptom of bladder affections is a frequent desire to pass water, which act is usually accompanied by pain. At other times the bladder may become paralysed, when all power of expulsion ceases, and the patient requires to use the catheter to obtain relief. Irritability of the bladder, which is invariably accompanied by frequent desire to micturate, when intense pain is experienced, especially during the ejection of the last few drops, is, in the majority of instances, due to the effects of cold, and is designated catarrh of the bladder. The urine, in these circumstances, is charged with a large amount of mucus, which gives a cloudy appearance to the fluid.

I now come to speak of an affection of the female organs which, because it is not recognised in its early stages, results in a needless amount of suffering, and this, were the community more highly educated, could be easily avoided. When I speak of the community, I reflect quite as much upon the average medical man as I do upon the people themselves, as there is hardly a day passes that I do not see the most flagrant examples of this ignorance of, or the ignoring of the importance of these symptoms. It is impossible to estimate the amount of suffering, not to speak of the danger, which women are subjected to by the prevailing ignorance which exists on this important subject.

Although the womb may be designated the most important organ of a woman, yet it probably receives the least attention when an investigation is being made as to her condition of health. The symptoms may point

unequivocally to disease of this organ, and yet the patient is permitted to go on for months or even years without any means being adopted to relieve her sufferings. If one were only cognisant of the misery that is directly due to disease of this organ, but which in its early stages is not reflected upon the physiognomy of the patient, one would sympathise very deeply with the highly nervous condition which women are frequently afflicted with. If a woman is known to be suffering from depression of spirits, irritability of temper, and an unduly sensitive condition of the nervous system, there is strong reason to suspect some womb trouble, though possibly these symptoms may be aggravated by obstinate constipation. If superadded to this there is fatigue on slight exertion, persistent pain in the back, and a copious leucorrhœal discharge, we may be perfectly certain that there is some serious mischief in the sexual organs. When a woman feels in this enervated condition, it is not unnatural that she should fly to stimulants for relief, and in consequence of this, I am firmly convinced, a great many poor women give way to alcoholic excess—a habit which, when once established, is most difficult to overcome. Let me beg of my readers, therefore, when such symptoms arise, to lose no time in obtaining the best advice that can be had, with a view of getting at the root of these painful symptoms. For further information on the subject see "Woman in Health and Sickness," published by David Bryce & Son, Glasgow.

Having taken in review in a cursory manner the diseases which affect the various organs, I will now proceed to describe the various diseases which the body is subject to, in detail, and in alphabetical order.

*Abrasions*, which consist in the removal of the outer skin or cuticle by violent friction, may, if not properly attended to, be followed by serious results from the absorption of poisonous matter. It is desirable, therefore, to have the

raw surface thoroughly cleansed by the free application of warm water, or preferably warm water to which an anti-septic has been added; a  $2\frac{1}{2}$  to 5 per cent. solution of carbolic acid, a 3 per cent. solution of boracic acid, or if these are not at hand, a weak solution of Condy's Fluid will answer the purpose admirably. When the surface has been thoroughly cleansed by these means it may be dressed with carbolized zinc ointment, the proportion of carbolic acid being 1 to 30 of the ointment. This dressing may be removed once in the twenty-four hours, and a fresh application made until healing is complete.

*Abscess* is an accumulation of matter either of a purulent or serous nature. If this consists of pus or matter, it is generally accompanied by severe pain and swelling. If, on the other hand, it contains fluid which is not undergoing decomposition, it may only occasion inconvenience. In either case, it is desirable that the fluid be given exit to as speedily as possible. This can be done without risk, if antiseptic precautions are rigorously adhered to. To soothe the pain, hot applications in the form of poultices or hot fomentations are very useful.

*Acarus Scabiei*, Acarus of Itch. The Itch animalcule is a parasitic insect affecting the skin. See *Itch*.

*Acne* is a disease of those glands of the skin which secrete the sebaceous or oily matter. It is characterised by pimples occupying the sites of these glands. One form of acne is that which goes under the popular name of Comedones or Blackheads. On squeezing these, the retained secretion comes out on the skin like a little maggot. Acne very frequently occurs upon the face, shoulders, back, and chest. It is most common from the ages of 15 to 21. To prevent the disease, frequent washing with Vinolia or Juvenia soap and warm water is most efficacious, but when it has obtained a footing, the following lotion will be found useful—flowers of sulphur, one drachm; rectified spirits of wine, one ounce; glycerine, one ounce; elder-

flower water to make eight ounces. Shake the bottle and apply every night, at bedtime, to the eruption.

*Aconite*, Monkshood, or Wolfsbane, is an Alpine plant which has been introduced into almost every garden. It is a deadly poison, and as its roots somewhat resemble that of the horse radish, many accidents have occurred from mistaking the one for the other. The taste of the two are, however, quite different—the horse radish being pungent and sweet, and causing the eyes to water very freely; on the other hand, when aconite is partaken of, it produces severe pain at the pit of the stomach, followed by nausea and vomiting, also a tingling sensation of the lips, feebleness of the pulse, and a cold clammy sweat. In the majority of cases, death occurs within a very short period after its ingestion. The treatment of poisoning by aconite consists in inducing free vomiting by the administration of mustard and water or sulphate of zinc in solution. This should always be followed by a full dose of castor oil. Stimulants, such as brandy and strong coffee, should be given. Aconite is, however, a most useful medicine, and when given in proper doses has a wonderful power in controlling fever, sore throat, inflammation of the lungs, and neuralgia. For these purposes an adult may take five drops to begin with, and then two drops repeated every half-hour until the pulse is reduced to its normal standard.

*Actaea Racemosa*, or, as it has been more recently named, *Cimicifuga Racemosa*, because of the repugnance borne to it by bugs, is a remedy which, from the writer's point of view, is too frequently ignored, as it is invaluable in lumbago and other forms of muscular rheumatism. Moreover, it combines tonic properties of no mean value. A useful prescription where there is general prostration accompanied by lumbar pains is the following:—Liquor strychnia, 2 drachms; liquid extract of cinchona, 6 drachms; tincture of *actaea racemosa*, one ounce; 40 drops

by measure to be taken in half a teacupful of hot water three times a day shortly before meals.

*Acupuncture* consists in driving a needle through the skin into the nerve substance. It is especially valuable in obstinate cases of sciatica, when as many as from six to twelve needles may be employed at one sitting. If the needles are dexterously used, it is a comparatively painless operation. They should be allowed to remain embedded in the tissue for a minute or two and then withdrawn, and frequently considerable relief from pain will immediately be experienced.

*Adder Bites*, though rarely fatal, are attended by such an amount of swelling of the tissues, due to the poison which has been injected, that they should be treated without any loss of time. If possible, the part bitten should be immediately excised with a knife, or a free application of ammonia, lunar caustic, or carbolic acid, applied to the seat of injury.

*Affusion*, or the free application of cold water to the surface of the body for the purpose of reducing the high temperature which prevails in fevers, is to be highly recommended if employed under medical supervision. It is especially useful in severe forms of typhoid fever, typhus fever, and scarlatina. It may be applied either by means of the cold spray bath, or by simply pouring the water over the patient, who is seated in a suitable receptacle to receive the fluid. Immediately after the bath, the patient should be removed to bed. The writer has frequently observed the most beneficial results, and life saved by what might be termed a very much more severe method of treatment, namely, the application of bags of ice to the abdomen, thus reducing the temperature of the whole body and for the time being allaying the fever. In many instances I have had recourse to this method of treatment in typhoid fever, where before the application the pulse was a mere flicker, but which, in the course

of a few minutes, gained considerably in strength and regularity.

*Ague*, Intermittent or Malarial Fever, is peculiar to marshy districts where decomposition of vegetable matter is constantly in process. This evidently gives rise to the development of microscopic organisms, which find an entrance into the body and produce the symptoms characteristic of the disease. The symptoms commence with a feeling of general lassitude, a sensation of weight in the region of the stomach, and a chilliness, which rapidly develops into actual shivering and chattering of the teeth. When the disease appears to be at its height the colour of the skin becomes livid and the body presents a shrivelled appearance. The circulation is feeble and the mucous surfaces become pallid, and sometimes actual stupor or convulsions may supervene. There are shooting pains through the head and limbs. This cold stage will in a short time be followed by intense heat and flushing of the whole body, when the pulse becomes quick and bounding, accompanied by a throbbing headache, hot skin, intense thirst, thickly coated tongue, and dark-coloured urine. This second stage is again followed by a third or sweating stage, when copious perspiration gives rapid relief. All these symptoms may again develop in twenty-four, forty-eight, or seventy-two hours, or at longer periods, as the case may be. This periodicity, as it is termed, is one of the chief features of the disease, and, according to the time which intervenes between the attacks, it is called quotidian, tertian, or quartan. Quinine is not only the best preventative, but also the best curative agent which at present we are acquainted with. Other remedies, such as arsenic and sulphate of zinc, are also of service. I should, however, be very much inclined to recommend the employment of phenacetine in this disease, as it has a marvellous power in controlling high temperatures when due to fevers. Quinine may be given in five grain doses every two hours, or

phenacetine may be administered in ten grain doses every four hours; but in every instance, before employing these antipyretics, it is essential that the bowels be thoroughly cleared out, either by means of a full dose of castor oil or carbonate of soda and rhubarb. Within the last few years malarial districts which have been freely planted with the eucalyptus tree have been rendered healthy, and from these areas the disease has been completely eradicated. This seems to be due to its power of rapidly absorbing moisture, and also to the abundant exhalations of its essential oil given off by the leaves especially, and to a lesser degree by the whole plant.

*Albumen* is one of the chief constituents of the animal body, and when taken by the stomach is a most concentrated form of nourishment. The white of eggs is albumen in nearly a pure form. This substance exists in the watery portion of the blood in a very large proportion. From the white of the egg the chick in its development receives its nutriment. From it is constructed its muscles, bones, and nerves. It is not difficult to comprehend, then, what an invaluable agent this substance is. In its pure state it possesses the very important property of being an antidote to various mineral poisons, such as sulphate of copper, or blue vitriol, bichloride of mercury, or corrosive sublimate, and chlorine.

*Albuminuria* is a term applied to the urine when it contains albumen in solution. This may arise either from organic disease of the kidneys, or from a weakened action of the heart, which interferes with the functional activity of these organs. It can be detected in the urine by boiling a small quantity, or by the addition of nitric acid to the suspected fluid, when coagulation of the albumen will immediately take place.

*Alcoholism* is an undue craving for stimulants. Numerous remedies have been recommended for this distressing disorder of the mind, but while abstinence *in toto* is the

only real remedy, yet considerable assistance can be obtained by the patient taking from 20 to 30 drops of the liquid extract of kola three or four times in the twenty-four hours, especially when the craving manifests itself.

*Alimentary Canal* consists of the mouth, œsophagus, stomach, duodenum, small intestines, and large intestines. The two latter are still further subdivided, but these subdivisions are only of interest to the anatomist.

*Aloes* is one of the most useful and extensively used purgatives. It is, however, seldom given alone, but generally in combination with some carminative which has the effect of preventing the spasmodic pain which this substance is liable to give rise to. The principal effect of aloes is upon the colon or large bowel, whose action it appears to excite without increasing the amount of the evacuation. In consequence of its cheapness and purgative properties it enters largely into the composition of quack medicines.

*Alpecia Areata* has been referred to when treating of baldness in a general way. It occurs in patches which generally follow the course of the distribution of certain nerves. It is doubtless due to a debilitated action of these portions of the nervous system, and is not so much due to disease of the hair bulbs as to the nervous debility which prevails and affects their nutrition. We must, therefore, not treat the disease so much as a local affection, but as a symptom of nervous prostration. Complete rest from business and change of air should be insisted upon, while nerve tonics, especially when phosphorus enters into their combination, should be administered as an adjunct.

*Amaurosis*, or Blindness, may amount to partial or total loss of vision from paralysis of the retina. It is usually attended with paralysis and dilatation of the iris, or pupil, though occasionally this is rigidly contracted. The term amaurosis was originally used to designate obscurity or dimness of vision, but now the word is employed to denote

a particular disease. In this disease the eyeball appears to be in no way altered with the exception of the dilatation of the pupil referred to, which gives the eye an unmeaning expression. Amaurosis may be induced by overworking the eye in an intense light, the excessive use of tobacco, rupture of a blood-vessel in the neighbourhood of the optic nerve or within the eyeball itself, or excesses of any kind.

*Amenorrhœa* is the term applied to the condition of the female when the menses cease to come on at their usual periods, and except in the case of pregnancy should always be a cause of anxiety, as it almost invariably indicates a deteriorated condition of the general health. It is desirable therefore, that the patient should place herself under competent medical supervision, and not endeavour to bring on the discharge by the various methods which so many ignorant people employ. It is a curious circumstance that amenorrhœa frequently supervenes when girls are removed from their homes either to school or to service. Under these circumstances, perhaps not so much importance should be attached to the abnormality, as it will probably disappear in a short time; but if this does not occur, and the health begins to suffer, proper medical assistance should at once be called in.

*Anæmia* has been so extensively treated in the first part of this book, that it would be superfluous to enter into the subject again.

*Anæsthesia* means, literally, the loss of sensation, and though this may be due to paralysis, the term is generally applied to the deadening of the sensibility, either by local applications to the part, such as freezing by the application of the ether spray, or by the hypodermic injection of cocaine. General anæsthesia is produced by the inhalation of chloroform, ether, or other substances of a like nature.

Chloroform, *when properly administered* (and I lay great stress upon this phrase), is by far and away the safest method of producing the desired effect. It should always

be administered freely diluted with atmospheric air, and in no circumstances whatever should more than four drops be inhaled per minute. If this rule were carried out, we would hear less of death occurring under chloroform. My own experience forces me to the conclusion that 90 per cent. of the deaths under chloroform are due to careless administration of the anaesthetic.

*Anasarca* is the term applied to a dropsical condition of the skin and subcutaneous tissue, and may be recognised by the fact that when pressure is made by the finger upon the part the impression remains some time afterwards. This is termed pitting. It has been referred to before when speaking generally of affections of the kidney. It may be caused by obstruction of the veins beyond the seat of swelling. In these circumstances it is quite local.

*Aneurism* is a dilation of a portion of an artery. It may either be due to disease of the artery, or to an injury inflicted upon it. In the earlier stages of the disease it is most difficult of diagnosis, and frequently when it exists the symptoms which are due to it are attributed to other causes. The most dangerous seat of aneurism is in the aorta, or main artery of the body, which takes its origin from the heart. If there is inveterate coughing without apparent cause, coming on in paroxysms and accompanied by breathlessness, especially if there is conjoined with this a sensation of pressure within the chest, a most careful and patient diagnosis should be made, as it is only at this stage that treatment can prove of any avail. The most frequent seat of the disease is probably in the femoral artery, and in that portion of it which lies behind the knee joint. An aneurism in this position, though of very serious moment, may yet be treated by surgical measures, with a very fair prospect of complete cure.

*Angina Pectoris* is one of the most painful and agonising diseases that the human frame can possibly suffer from. Its symptoms are a terrible struggle for breath, combined

with pain of a most acute type situated over the region of the heart. It is always due to heart disease, but as a rule is excited by some gastric disturbance in persons suffering from affections of the heart. The symptoms are attended by a feeling of impending death from suffocation. The treatment consists in the administration of nitrite of amyl, either by inhalation or by the mouth. When taken internally it is generally combined with nitro-glycerine in minute doses, and this combination has a marvellous effect upon the disease. As an adjunct to this treatment mustard poultices over the region of the heart will be found of considerable service. The precautions necessary to ward off the disease are entirely those which promote digestion, viz., the avoidance of food which is known to disagree with the individual, and the administration of digestives such as pepsine, ingluvin, peptenzyme, or other digestives combined with aromatics and alkalies. The following will prove of service where the stomach is at fault:—Pepsine, compound aromatic powder, of each three drachms; bi-carbonate of soda, one ounce; calcined magnesia, half-an-ounce. Mix. Half a teaspoonful in water three times a day immediately after food.

*Antipyrin*, as its name indicates, is a medicine which is employed as an anti-febrile agent. It is now very largely, but, from my point of view, very unfortunately, employed in the treatment of neuralgia. It is a drug which requires to be taken with the greatest discrimination, as its effects upon the heart are very liable to be most serious in consequence of its producing a depressing effect upon its action.

*Antiseptics* are substances which prevent the development, or destroy, the micro-organisms which give rise to disease. The most efficacious of these substances which we are acquainted with are aristol, carbolic acid, bi-chloride of mercury, iodoform, boracic acid, chlorine, oil of eucalyptus, permanganate of potash, thymol, salicylic acid, etc.

Antiseptics are invaluable in the dressing of wounds, as by their employment—if this is carefully and thoroughly carried out—wounds may be made to unite without the slightest appearance of suppuration, or, as it is technically termed, by first intention. To give an idea of what may be accomplished by strict antiseptic precautions, it may be interesting to the reader to know that in 108 consecutive operations for the removal of abdominal tumours, performed by the author, healing in every instance occurred without the development of pus, the stitches, as a rule, being removed within ten days, when complete union was found to have taken place. Such results, where the abdomen was entered on each occasion and where not a death occurred, indicate the enormous benefits which have been derived from the employment of antiseptic surgery.

*Aorta* is the large artery which takes its origin in the left ventricle of the heart, and distributes the blood to the various arteries of the body. This portion of the arterial system is liable to aneurism, which see.

*Aperients* are necessary evils, but when they are called for in the treatment of constipation, they are the least of two evils. In employing an aperient it is always desirable to select those which produce a tonic effect upon the muscular fibre of the bowel, as by their continued and judicious use the sluggish action of the bowel may eventually be overcome. Drastic purgatives, although they act thoroughly at the time, invariably leave the bowel in a more weakened condition than before. When the bowels are inclined to constipation the best method of treating this is by giving small doses of aloëin in combination with belladonna and strychnine, which may conveniently be made into a small pilule, one of which should be taken three times a day after food until the bowels begin to act naturally, when the number of pills may be decreased according to circumstances.

*Aphasia* is a disease due to a lesion of the third convolu-

tion of the left hemisphere of the brain, and is generally produced by a rupture of a blood-vessel in that region, but it may be caused by pressure of a tumour within the brain. Its characteristic symptoms are inability to associate objects with their proper names, and it is generally made apparent to the physician by the fact that the patient designates familiar objects by names quite disassociated with them. If a tumour exists, then it may be deemed necessary to remove this by a surgical operation. If, however, as is usually the case, it is due to rupture of a blood-vessel, absolute rest will be called for, together with attention to the general health.

*Aphonia* literally means loss of voice, and is due either to an inflammatory affection of the larynx or paralysis of the vocal cords. The disease may be caused either by cold or specific disease, such as syphilis, tuberculosis, or cancer. When it originates from the effects of cold, alleviation of the inflammatory condition may be obtained by poultices, hot fomentations, and the inhalation of medicated steam, to which may be added the administration of expectorants, the most valuable of which are ipecac and antimony, combined with soothing agents, such as paregoric or chlorodyne. If, however, the disease is syphilitic in its origin, then it must be simultaneously treated by the administration of mercury or iodide of potassium, according to the stage at which the disease has arrived. When paralysis is present, electricity is of considerable service when employed in conjunction with the internal administration of strychnine.

*Aphtha*, or, as it is popularly designated, Thrush, is a disease of the mucous membrane of the mouth and throat, due to the development of a fungus growth. It is invariably associated with a disordered condition of the digestive organs, and is, as a rule, a disease of infancy only. The fungus is usually readily destroyed by the application of borax or boracic acid, or both combined, dissolved in

glycerine. At the same time it will be necessary to rectify the gastric disturbance by regulating the diet, and administering alkalies in conjunction with a bitter tonic, such as the infusion of calumba, gentian, or quassia.

*Apnoea*, or loss of breath, rapidly terminates in the death of a patient. It may be produced by external causes, or by disease of the heart or lungs.

*Apoplexy* is invariably due to either a congestion of a portion of the brain substance, when it is called congestive apoplexy, or to rupture of a blood-vessel within the brain substance, which is invariably followed by paralysis of the side of the body which that portion of the brain supplies with nerve power. It is a frequent cause of sudden death, and invariably, when death does not immediately supervene, it is followed by paralysis. The great point to attend to in such cases is to keep the person affected at absolute rest; and where the blood-vessel appears to be overloaded, blood-letting is invariably indicated. Free evacuation of the bowels is also an essential line of treatment to be pursued, while a light and nutritious diet should be given.

*Appetite* consists in a physiological congestion of the stomach, which produces a feeling of craving for food. This we designate Appetite. As soon as food enters the stomach this temporary congestion disappears, and the gastric glands come into play, secreting gastric juice, which promotes the digestion of the food. It must, however, be noted that frequently what is called a false appetite exists. This is invariably indicative of a diseased condition of the stomach, and consists in a congested state of the blood-vessels; thus a false appetite is due to disease rather than to the desire of the individual for food. When this condition exists, it is essential that the aid of a medical man be called in, as it, in many cases, is the precursor of a much more serious pathological condition.

*Arcus Senilis* is that condition of the cornea, or colouring matter of the eye, the circumference of which appears to be

surrounded by a pearly-looking ring. It invariably indicates a fatty degeneration of the heart and arteries, and is associated with advancing years. Its indications are always attended by serious import to the individual affected.

*Areola* is the term applied to the deepening of the colouring matter surrounding the nipple of the female breast, and is, as a rule, indicative of pregnancy being co-existent; in fact, it is one of the chief signs of pregnancy. It is due to a deposit of pigment in the area where the colouration exists.

*Aristol* is one of the most useful and least irritating of all antiseptics, and it can be employed without the slightest fear or hesitation in the treatment of wounds. It completely prevents the development of micro-organisms, and thus has the power of keeping the wound thoroughly aseptic. By its action it favours rapid union of the divided surfaces, and is therefore one of the most useful adjuncts the surgeon possesses in obtaining satisfactory results. It is also employed in the form of ointment in the treatment of eczema, psoriasis, erosions of the surface, burns and scalds, and cancer of the skin or mucous membrane. It possesses a salmon colour, and to avoid decomposition, which light is liable to produce, it is desirable that it be kept in the dark.

*Arsenic* pure and simple is a metal, but in medicine the term is applied to a combination of this with oxygen, and this article is technically known as arsenious acid. As is well known, it is a deadly poison, and when swallowed acts as a powerful irritant to the mucous membranes with which it comes in contact. Poisoning by arsenic produces faintness, nausea, and frequent vomiting, with intense burning pain at the pit of the stomach. When the stomach has emptied itself of its contents it throws off a coffee-ground like substance mixed with mucus, which is frequently streaked with blood. There is also intense heat in the

gullet and throat, accompanied by excessive thirst. After a little time diarrhoea, with cold sweats and convulsions, sets in, and is shortly followed by death. In slow poisoning by arsenic the eyes become inflamed, and frequently this condition is accompanied by an eruption on the skin. It should not be overlooked, however, that British cholera resembles arsenical poisoning very much in its symptoms. The promptest treatment is necessary, and the stomach should be emptied as quickly as possible, either by the administration of a table-spoonful of mustard in a tea-cupful of warm water, or 30 grains of sulphate of zinc dissolved in half a tea-cupful of warm water. Vomiting may also be induced by pushing some object down the throat and thus sickening the patient, after which the stomach should be well washed out by means of the stomach-pump. Milk mixed with magnesia or lime water should be given, as the arsenic tends to mix with this and form a coagulum. Olive oil is also useful in these circumstances. The fresh precipitated oxide of iron has been recommended as an antidote to a certain extent. It should be borne in mind that arsenic is a volatile metal, and may produce its injurious effects if it is exposed, in any form, to the atmosphere, and the fumes inhaled. Hence, when entering into the colouring matter of Scheel's green, which is frequently used on wall papers, the inmates of the dwelling where this paper is used are liable to suffer. On this account such colouring matter should be condemned and never employed on the walls of apartments. On the other hand, arsenic is a most useful medicine, and is extensively employed in the treatment of skin diseases, ague, and neuralgia, and, strange as it may appear, it has also a most beneficial effect upon irritability of the mucous membranes. Its usual method of employment is in solution, viz., Fowler's solution of arsenic—from three to five drops in a little water thrice a day after meals being the usual dose. It is also employed in

combination with soda, viz., the arseniate of soda, the dose of which is one-twelfth of a grain thrice a day.

*Artery and Arterial Hæmorrhage.*—Artery is the blood-vessel which conveys the blood from the heart to the capillaries, from whence it is returned by the veins. The arterial blood is a bright red, and flows in waves or pulsations. An injury to an artery may be recognised by the fact that the blood is ejected in spurts which correspond to the beats of the heart, while blood coming from an injured vein flows in a constant stream. Compression applied above the seat of the injury, as well as over the bleeding aperture, will modify the flow of blood till medical assistance is procured, while compression will completely arrest that from a vein. It need hardly be said that unless the hæmorrhage from an artery is speedily checked very dangerous symptoms will arise, and, if the artery is of any size, soon prove fatal.

*Ascites*, or *Dropsy of the Abdomen*, is due to effusion arising from an interference with the circulation in the veins of the peritoneum, whereby the watery constituents of the blood by the hydrostatic pressure induced oozes through the walls of these vessels. It may have its origin in disease of the liver, whereby the circulation of that organ is interfered with, disease of the heart and kidneys, or peritonitis. It is always desirable that swelling of the abdomen should be accurately diagnosed, as the enlargement may be due to cystic tumours of the ovaries, when, of course, the treatment would differ considerably.

*Asphyxia* is due to the blood not coming in contact with atmospheric air; thus all the organs of the body suffer by the blood becoming poisoned with carbonic acid. In consequence of this the heart becomes less and less excited, until at last it ceases to beat and death ensues. Asphyxia is produced by hanging, drowning, and suffocation.

*Assimilation* is the physiological process succeeding digestion when the nutritive portions of the food are

absorbed into the circulation. If assimilation is going on perfectly the health and weight of the individual will be maintained. On the other hand, the glandular apparatus which is scattered so freely over the small intestines may become unhealthy, therefore unfit to perform their functions satisfactorily, when, as a natural consequence, the body will lose in weight, and the general health of the individual become deteriorated. When these symptoms are apparent it is advisable to consult some competent medical authority on the subject. As a rule, when assimilation is imperfect the stools will be found to be unduly large in quantity, and possessing a highly offensive odour.

*Asthma* is a spasmodic affection of the smaller bronchial tubes. The symptoms are paroxysmal, and may be recognised by intense breathlessness, so that the patient is obliged to sit up in bed in consequence of the difficulty in breathing. It differs from bronchitis by the fact that the air is more difficult to expel from the chest than to inhale, the wheeze therefore is heard only on expiration ; but, if it happens to be combined with bronchitis, the bronchitis wheeze will be heard on inspiration as well. As a rule, asthma depends entirely upon some derangement of the digestive organs. It is, however, very peculiar in this respect, that certain atmospheres appear to induce it, whereas other atmospheric influences would appear to keep it in abeyance. The treatment of asthma should in every instance commence by clearing the bowels, regulating the diet, and improving the digestion, while the spasm may be relieved by the inhalation of the fumes of blotting paper which has been saturated with a solution of nitre, and afterwards dried so that it will consume rapidly away, evolving at the same time thick volumes of smoke. Smoking stramonium and datura tatula through a clean pipe is also of great service. Frequently the inhalation of a few drops of chloroform on a handkerchief will give relief to the spasm, while rubbing the chest with a liniment

containing equal proportions of belladonna liniment, compound camphor liniment, and soap and opium liniment will be found, as a rule, to relieve the patient.

*Astigmatism* is the term applied to a peculiar condition of the eye which causes an imperfect refraction of light. It may invariably be remedied by the use of suitable spectacles.

*Atony* is the condition of the system where there is debility, lethargy, and languor, due to deficiency of nerve tone. The remedies in such a condition of the health are—change of air, freedom from business worries, a good nourishing diet, attention to the daily evacuation of the bowels, and plenty of outdoor exercise, preferably riding on horseback. To these hygienic injunctions may be super-added the administration of nerve tonics, such as phosphorus, strychnine, valerianate of zinc, or all these in combination.

*Atrophy*, or wasting, may be either general—when it is due to disease such as consumption or cancer—or it may be local, when as a rule it is due to some deficiency of the nerve supplying the part affected. These will be treated under their respective heads.

*Auricle* is the name of the external ear, as well as that of the two upper cavities of the heart, the left receiving the oxygenated blood from the lungs, and the right the venous blood from the general circulation. These communicate by valvular orifices with the ventricles of the heart.

*Auscultation* is the term applied to the detection of disease in the chest by means of the ear applied either to the chest wall directly or by the stethoscope. It is also a useful assistant in detecting disease of the abdomen and fractures of bones.

*Bacilli* are microscopic organisms which have the power of procreation to an enormous and rapid extent within the human frame, thereby becoming active agents in the production of disease.

*Bacteria* are also micro-organisms which resemble very closely in their effects the bacilli. They are constantly present in our atmosphere, and only require favourable circumstances to develop their alarming results. The bacteria of diphtheria, typhoid fever, charbon or anthrax, and the various specific fevers, are all due to the development of these minute fungi within the blood.

*Baldness*, to which space has been allotted on page 24, is, as has been stated, due to atrophy of the hair follicles. This may be due to some constitutional or hereditary tendency, while it also is not unfrequently due to the secondary effects of syphilis. It may to a certain extent be remedied by the application of a stimulating lotion to the scalp—*e.g.*, tincture of cantharides, two drachms; spirit of rosemary, one ounce; acetic acid, one ounce; rose water to make eight ounces; apply a little night and morning to the scalp, and afterwards the hair should be kept soft by rubbing in a little pomade.

*Banting System*, so called after Mr. Banting, of London, who, by adopting certain dietary rules, reduced himself from being an immensely stout and heavy man to one of normal size and weight. He made known his experience in a pamphlet, which speedily gained him great notoriety and induced many people to follow his injunctions. The principles of his system are—the avoidance of articles of diet containing sugar, fat, and starch. A useful adjunct to his system is not to partake of liquids during a meal, but to masticate the food and thus thoroughly bring it into contact with the saliva, so that when it is swallowed it will become mixed with the gastric secretions undiluted by other fluids. Liquids can, of course, be imbibed after the meal is finished, and the food thoroughly mixed with the digestive fluids of the mouth and stomach. If this rule be observed, it will also be found to be of great service in ordinary cases of dyspepsia.

*Barrenness*, or sterility, results from various structural or

diseased conditions of the generative organs, but in a large majority of cases it is directly due to an unhealthy state of the lining membrane of the womb. When this is the case, concomitant with the sterility there will be present a sensation of discomfort, if not of actual pain, in the lower part of the abdomen, which symptoms will be aggravated at the usual monthly epoch. There will also be present nervous symptoms, consisting principally of depression of spirits, irritability of temper, together with lethargy and loss of interest on the part of the patient in her domestic duties. Such a condition of things, however, can readily be removed by judicious medical measures.

*Bath.*—The application of water, vapour, or hot air comes under the comprehensive term of bath. The daily use of water to the surface of the body, either by means of the sponge, spray, shower, or plunge bath, is one of the best and most easily applied hygienic rules. The bath may be cold, tepid, hot, simple, or medicated. A cold bath should always be followed by reaction ; but if there is difficulty in obtaining this, great assistance will be afforded by the individual standing in a foot-bath containing warm water during the process of drying the body. Sea bathing is one of the most popular as well as one of the most invigorating hygienic measures that can be employed. The temperature of the various baths may be stated as follows :— Tepid bath varies from 85 to 95 degrees ; warm bath ranges from 95 to 102 degrees ; hot bath from 106 to 110 degrees. Baths may be either general or local ; for example, the sitz or hip bath, and foot bath are local ; a bath is general when the whole body, with the exception of the head, is immersed. The vapour bath may be applied by a suitable apparatus when the patient is in bed, or by sitting in an enclosed space into which steam is freely admitted. Medicated baths are those into which chemical substances are introduced, such as carbonate of soda, salt, vinegar, or extract of pumuline. Mineral baths are usually

employed in conjunction with the drinking of the various waters, such as chalybeate or iron water, sulphurous, gaseous, and saline. The best known in England are those of Bath, Harrowgate, Cheltenham, Buxton, and Strathpeffer in Scotland, and on the Continent Aix-les-Bains, Kreuznach, Homburg, Schwalbach, Baden-Baden, etc. The Turkish bath is not only one of the most invigorating, but also one of the most enjoyable which we possess. After a day's fatigue it is wonderful how refreshing a Turkish bath is. It is, however, very necessary to use every precaution in the way of having the body cooled thoroughly before going again into the open air. Moreover, the Turkish bath possesses curative properties of no mean order—*e.g.*, in many diseases, such as neuralgia, rheumatism, dropsical swellings, chronic diseases of the lungs, and affections of the digestive organs. If disease, however, is present in any shape, it would be as well to take medical advice on the subject.

*Bedroom.*—It is most important that the bedroom should be situated with a southern exposure. It should be airy and well ventilated. During the night thorough ventilation should be ensured, and during the day the window or windows should be thrown open so as to permit of a free current of air through the apartment. Great care should be taken that all sleeping apartments be free from arsenical colouring matter in the paper, as frequently great mischief has been due to the fact of arsenic entering into the colouring matter of the paper of bedrooms.

*Beds and Bed-Clothes.*—An iron bedstead is much more wholesome than one made of wood, and it is healthier to sleep on a hair or spring mattress than on a feather bed. The bed-clothes should be changed at frequent intervals so as to ensure perfect cleanliness.

*Bed-Sores* arise in lingering illnesses, and are due to continued pressure upon one particular part. They chiefly occur on the buttocks, and give rise to serious complications

in the course of the diseases in which they occur. The greatest safeguard against such sores is the employment of a water bed, whereby the pressure is equalised over the whole body. When a bed-sore threatens, the part presents a red and congested appearance. In such circumstances the surface so affected should be bathed frequently with warm water, and after drying with a soft towel, either eau-de-Cologne or whisky should be applied. If a bed-sore has really formed, then it is desirable to keep it clean by means of frequent applications of antiseptics, such as charcoal poultices, or carbolised oil, which will promote healing. One part of carbolic acid in sixteen parts of oxide of zinc ointment is also a valuable dressing in such circumstances. The daily application of aristol, by dusting it over the raw surface, is an excellent healing agent.

*Bee Stings.*—If possible, the first thing to do is to extract the sting and then apply an alkali, such as ammonia, bicarbonate of soda, bicarbonate of potash, or lime, which substances have an affinity for the formic which is the essential constituent of the sting, and thus its virulence is destroyed.

*Bile* is the secretion of the liver, and aids in the assimilation of the fatty portions of the food. If the liver becomes defective in its action, then the biliary products are liable to accumulate in the system, and give rise to what is popularly termed biliousness, and not unfrequently jaundice is the direct result. If this condition obtains the urine will contain bile, while the alvine secretions are deficient in the biliary colouring matter. A frequent cause of what is popularly termed biliousness is constipation. The effects of this, however, are not entirely due to the accumulation of bile in the system, but to a great extent to the fact that faecal absorption by the lower bowel takes place from the retained matter in the canal, thus contaminating the blood and giving rise to the dusky and sallow complexion which is directly consequent upon this process; hence a free

purgative will often have the effect of relieving the symptoms which are present. If, however, the unhealthy condition is due to a sluggish action of the liver, then it will be necessary to add to the purgative one of the medicines which we know act directly upon the liver itself, such as calomel, grey powder, blue pill, podophyllin, or taraxacum. Nitric acid has also a most beneficial effect when combined with a tonic when the liver is sluggish. All attempts, however, to correct biliary derangements should be combined with careful attention to diet.

*Biliary Calculi*, or gall-stones, are not really calculi in the same sense as those which constitute stone in the bladder, but are what might popularly be termed congealed masses of bile, which render them incapable of passing through the bile duct, as the substance would normally do if in a fluid state ; they therefore have to be forced through by spasmodic contraction of the canal, hence the severe pain which is produced, and the obstruction which is caused to the free exit of the biliary secretion. The consequence of this impediment is that the gall bladder becomes distended, and the bile is absorbed by the blood-vessels, giving rise to the yellow colouring of the whites of the eyes and skin which is characteristic of jaundice. Jaundice, however, is not invariably due to the presence of gall-stones, but may arise from organic disease of the liver and to thickening of the walls of the gall duct, which thus reduces its calibre, and hence its capability of permitting a free passage of the bile into the duodenum. The treatment of gall-stones, which has been recently recommended, and which has proved of immense service, consists of large and repeated doses of olive oil. As much as a table-spoonful has been given every two hours with marked beneficial results. It is certainly a simple remedy, and has proved very efficacious in the hands of many men who have studied the question.

*Biliary Disorder* is due to a diseased or unhealthy condition of the liver, gall bladder, or biliary ducts. It is a frequent accompaniment of indigestion, especially when this is coincident with a catarrhal condition of the stomach and bowels. Its symptoms are, general lowness of spirits, sickness, deficiency of bile in the alvine excretions, and an excess of bile in the urine, accompanied by an unhealthy appearance of the skin. It is a very frequent disorder in civilised life, and is intimately connected with over-indulgence in alcoholic liquors and food. It is not unfrequently due, however, to cold. If the liver is out of order, then the health is rapidly affected, as its secretion is essential to the assimilation of food, and therefore the nutrition of the body is deteriorated *pro rata*. It also tells upon the circulation, and by the fact that the blood is contaminated the nervous apparatus becomes deteriorated and rendered unduly sensitive to cold. Attacks of biliousness are generally accompanied by sick headaches and bowel complaints, which may either result in constipation or diarrhoea. A low and morbid condition, with irritability of temper, is a frequent concomitant of this disease. The remedy consists in clearing the bowels, and at the same time acting upon the liver by means of calomel, blue pill, grey powder, or some other remedy which stimulates the liver to a healthier state of action. It is also essential that the diet should be carefully studied, so as to promote digestion and assist the bowels in their daily evacuation.

*Bites* of dogs should, in every instance, be first of all thoroughly cleaned by means of warm water, the bleeding at the same time being encouraged, and afterwards the raw surface should be cauterised either by means of lunar caustic or carbolic acid, and then dressed with carbolised oil or carbolised zinc ointment.

*Bladder*.—The urinary bladder is the receptacle of the urine after it has been secreted by the kidneys. It is situated at the lowermost point of the abdomen, just behind the

pubic bones. It is subject to many affections, which are due to various causes, such as carelessness and neglect, to cold and disordered digestion. If the bladder is permitted to become distended it may rupture, when the consequences are very serious and frequently fatal. Irritability of the bladder is due, as a rule, to an inflamed condition of its mucous membrane, which may be produced by cold or an irritating condition of the urine, and not unfrequently to the action of cantharides, either given internally or absorbed into the blood from a blistered surface; hence it is a frequent sequel to the application of a blister. Stone in the bladder is not an uncommon cause of pain in the organ. When this is present the urine is liable to become bloody after exercise, and the urinary stream is frequently impeded or completely stopped by the obstruction caused by blocking up of the water passage. The general treatment for disorders of the bladder is the hot sitz-bath, accompanied by the administration of bicarbonate of potash in combination with tincture of henbane and the infusion of *uva ursi*, *buchu*, or *triticum repens*. The following mixture will often be of service when the bladder is in an irritable condition:—Bicarbonate of potash six drachms, tincture of henbane six drachms, infusion of *uva ursi* to make eight ounces. A tablespoonful three times a day in water half an hour before food. Weakness of the bladder, indicated by inability to retain its contents, is a frequent disorder of old age. It is not uncommon in children also, and may be remedied by giving tonics which we know act upon the involuntary muscular tissue, such as ergot of rye, belladonna, and *nux vomica*.

*Bleeding*.—See Hæmorrhage.

*Blindness*, or Loss of Sight, may arise from accident to the cornea or lens, or from disorganisation of the eyeball by accident or disease. It is also not unfrequently due to disease arising independent of accident to the cornea, lens, vitreous humour, and retina. Blindness may also arise

from disease of the optic nerve or brain. As a rule, when this affection is due to disease the symptoms come on gradually, but when accident is the cause, as might be expected, they come on suddenly. When blindness is due to opacity of the lens itself, or cataract, it may be remedied by operation ; when due to the retina it is called Amaurosis, which see. Colour blindness is a peculiar condition of the optic nerve, which prevents it from being able to identify various colours ; hence this affection precludes many individuals from engaging in occupations which render it necessary that colours presented to their vision be correctly identified—*e.g.*, railway signalmen. In blindness arising from any cause whatever, it is essential that a competent medical practitioner be consulted, and that without loss of time.

*Blister.*—Blistering, or Counter Irritation, by the application of cantharides plaster, although not so much in vogue at the present day as it was some years ago, is still a most useful remedy in certain inflammatory disorders of the internal organs and joints. As a rule, blisters are applied to too great a surface at once ; a small blister will act quite as efficaciously as a larger one, in many instances. The proper method is to allow the blister to remain on from eight to ten hours, then, if it has not risen sufficiently, to apply a piece of cotton wool, when, as a rule, a large vesicle filled with serum will appear. This should then be cut with a pair of scissors, and all the dead cuticule removed so as to expose a raw surface. This raw surface should be dressed night and morning with prepared lard on a piece of lint until it is healed.

*Blood.*—The blood, or vital fluid, has been designated by some “The Life.” This, however, is not the case any more than food is life, or oxygen is life, but certainly it is the medium of life. Its composition is a liquid in which float innumerable corpuscles, or globules. These are designated the red and white corpuscles, the red particles being the

carriers of carbonic acid gas from the system towards the lungs, and of oxygen from the lungs to the capillary vessels. The white corpuscles, or leucocytes, are the minute bodies which protect the animal economy against disease, and wage constant warfare against the numerous bacilli, microbes, bacteria, etc., which are the essential elements of zymotic disease. The chemical composition of blood is 79 parts water, 4 albumen, 14 globulin, together with certain salts in solution. When blood escapes from the body it separates into two portions, coagulum—which is generally known as blood clot—and serum. It is the serum of the blood which fills the vesicle or bleb of a blister. Blood-letting was at one time a much more popular remedy than it is at present. Fifty years ago it was carried to an absurd extent, and people were under the delusion that it was necessary to have a vein cut and a certain amount of blood extracted from it at least twice a year. The process consisted in tying a bandage above the seat where the puncture in the vein was to be made. The vein was then cut by a sharp lancet, and a certain amount of blood abstracted. The bandage which had been used to constrict the limb above the point of incision was generally utilised to stop the bleeding, which was readily staunched by pressure. Blood-letting still retains a certain amount of importance in the treatment of disease, especially where there is a plethoric condition of the system, or where a rupture has taken place of a blood-vessel within the brain. Other means besides the lancet were employed in abstracting blood, such as cupping, leeching, and scarifying, for descriptions of which see their respective articles.

*Blows.*—Blows may be either of a very innocent nature or of very serious import. For example, a blow on a fleshy part of the body will only result in a rupture of minute vessels at the seat of the injury; discolouration will result from the effusion of blood which oozes from the ruptured vessels, but this will disappear within a few days and all

traces of the injury be eradicated. A blow on the chest or abdomen, however, may have very serious consequences, as the shock to the nervous system in such circumstances may be followed by alarming symptoms, and possibly death. Blows on the head are also of great importance, and should never be treated with indifference. Not unfrequently dangerous symptoms may supervene months or even years after the blow has been inflicted in this region. It is hardly necessary to suggest that in severe blows on the chest, abdomen, spine, or head, medical aid should be called in without delay.

*Blue Disease*, or Cyanosis, is due to a defect or malformation of the heart, which prevents the full volume of blood passing from the heart into the lungs for oxygenation ; thus the venous blood never becomes converted into arterial, but always enters in a greater or less degree into the general circulation.

*Boil*, or Furuncle, is a localised affection of the skin, produced by a microscopic organism which locates itself in a hair follicle and there propagates its species, giving rise in the process to suppuration in its immediate neighbourhood. This affection, as a rule, can only develop when the system is below par. If the little pustule which at first appears is touched with pure carbolic acid, the boil will generally be aborted, in consequence of the destructive effect of the acid upon the microbes which tend to produce it. At the same time, great diligence should be observed in endeavouring to improve the general health. As a rule, the less a boil is meddled with the better ; permit it to come to a head if it has gone beyond the stage when it can be aborted. Boils frequently appear about the neck, as they are encouraged by the irritating effect of the collar ruffling the pustules, which otherwise would have died away without developing into the more painful affection. Oranges are, to a certain extent, beneficial where there is a tendency to boils. They should, however, be eaten in fairly large quantities—say,

six or eight a day. A carbuncle, as a rule, develops from a boil which has been unduly irritated.

*Bone* is the hard framework or skeleton of the human body. It is composed of about two-thirds mineral or earthy and one-third animal matter, but these are so intimately united and diffused through one another that it is impossible to separate them without the aid of heat or a strong acid. The outer layer of bones is always denser than that composing the main shaft, and throughout their substance minute blood-vessels ramify to supply them with nourishment. The covering of the bone is called the periosteum. Bones are liable to disease like any other part of the human body, such as caries, tumours, abscesses, cancer, tuberculosis, etc. For these different affections see separate articles.

*Brain* is the large mass of soft tissue occupying the cranium or skull case. It is arranged in convolutions or coils, which are subdivided into the right and left hemispheres, while the brain itself is made up of cerebrum and cerebellum, the latter portion being in connection with the spinal cord. From the brain itself arise the most important nerves which govern the economy, such as the auditory, optic, pneumogastric, and phrenic. Brain concussion is the term applied to the condition which results from a severe blow, when unconsciousness is produced without any organic mischief having been inflicted upon the brain itself. Brain compression is applied to an injury which displaces a portion of the skull, or ruptures a blood-vessel within the brain substance, thereby causing compression of the organ. In either of the foregoing affections it is highly desirable that competent medical aid be called in without delay.

*Breast*.—The term as applied in this case refers to the female breast only. It is that part of the organism which is devoted to the nourishment of the offspring. It is composed principally of the mammary gland, which secretes the milk for the infant. The breasts are not apparent in the

infant, but the gland commences to develop at the age of puberty. During pregnancy the breasts enlarge and the gland enters on an active state of existence, its secreting power being developed to its full extent. The breast is liable to many diseases, such as abscess, occurring principally during the period of lactation, or tumours of a simple kind called Adenoid, which are usually associated with an irritable condition of the ovaries, and are essentially a diseased condition of the gland substance. Cancer, as is well known, frequently attacks the mammary gland, which, of course, can only be eradicated if the disease is detected before the neighbouring tissues have become affected. If an abscess is threatening there are generally premonitory symptoms of pain, swelling, hardness, and tenderness in the part affected. Mammary abscess is usually due to some defect in the ducts conveying the milk to the nipples. It is desirable, therefore, to re-establish the excretory capabilities of the lacteal vessels. This is best accomplished by hot fomentations repeatedly applied, and followed by the inunction of olive oil. If an abscess has really formed, then it is desirable to soothe the pain by hot poultices until it is deemed expedient to give free exit to the pus by means of the lancet. It is very cruel to permit the suffering that is inseparable from an abscess in the breast coming to the surface by the aid of natural means alone. The proper course to pursue if pus is detected within the cavity of the chest is to put the patient under chloroform, cut down upon the matter, and allow its free escape. In this way days, and even weeks, of intense agony will be avoided. Adenoid, or simple tumours of the breast, may be left alone, unless they become inconvenient from their increasing size. They can at any time be removed without risk to the patient. Cancerous tumours, on the other hand, should be removed without delay after they have been recognised ; indeed, if there is the least suspicion that the disease is cancerous, whether it be thoroughly diagnosed to be as such or no,

the breast should be amputated without the least hesitation. In this way, I am convinced, many valuable and useful lives would be saved.

*Breath.*—By the breath many important diseases may be recognised, or at least suspicion of their presence aroused. If the breathing is rapid and excited we would infer that there is some impediment to the proper aeration of the blood. It then remains for us to ascertain whether this be due to disease of the lung tissue, to some affection of the heart, or to a distended condition of the abdomen which prevents the proper inflation of the lung at each inspiration. If, on the other hand, the breath is offensive, we may from it derive many indications of a variety of diseases, such as diseases of the mucous membrane of the air passage, caries of the bones over which a portion of this mucous membrane is stretched, a disordered state of digestion, or of the several conditions of the blood which arise from impurities being present. Bad teeth and ulceration of the gums will also give rise to an offensive breath. The greatest stench that can possibly impregnate the breath is that which is derived from gangrene of the lung. Whenever the breath is disagreeable to those in the neighbourhood, it is desirable that medical aid be called in, and the exact cause ascertained and remedied.

*Bright's Disease* is the term applied to inflammatory affections of the kidneys, and is readily recognised by the presence of albumen in the urine when it is boiled, or when a small portion of nitric acid is added to it, each process giving a copious deposit of albumen. The disease is so serious, and the treatment of it so important, that in every instance where it is suspected medical aid should be called in without delay.

*Bronchitis* is due to an inflamed condition of the lining membrane of the bronchial tubes. It is, as a rule, induced by cold, but may occur in the course of some acute disease, such as typhoid fever. In the first stages of acute

bronchitis the mucous membrane of the tubes is frequently so inflamed as to give rise to intense spasm and pain in breathing. When the inflammation somewhat subsides and the membrane is permitted to secrete mucus, it does so in such excessive quantities as to cause a great amount of expectoration, which, of course, is always accompanied by an inveterate cough. Sometimes the inflammatory state of the tubes spreads downwards towards the minute capillary branches, and even to the lung substance itself, when, of course, very serious symptoms may supervene. The proper treatment of bronchitis is the frequent application of mustard and linseed poultices to the back and front of the chest, each of which should be permitted to remain on for at least half-an-hour, to be followed by a fresh application in three or four hours. The patient should be confined to bed and well nourished. When there is difficulty in bringing up the expectoration this may be assisted very materially by remedies such as ipecacuanha wine, antimonial wine, paregoric, squills, etc.

*Bronchocele* is, strictly speaking, a cyst of the thyroid gland. It may, and frequently does, attain to enormous dimensions ; as a rule, however, it is not a disease accompanied by danger to life, although it invariably causes immense inconvenience. The proper and most advisable course to pursue when bronchocele is present is to draw off the fluid by means of an aspirator, while syrup of iodide of iron should be given regularly for a considerable period.

*Bruises* and contusions are produced by direct violence to the part affected. They are generally followed by considerable effusion of blood, due to rupture of the minute vessels at the seat of injury. This effused blood, or ecchymosis as it is termed, may become diffused over a considerably greater area than one would naturally suppose. Gravitation plays a considerable part in inducing this. The proper treatment of a bruise is to apply cold at once, so as to prevent as much effusion of blood as

possible. The swelling which invariably results from a bruise is due to effusion of blood and serum into the injured part. This, however, will, as a rule, disappear after a few days if the skin has not been broken.

*Bubo* is the swelling of a gland which usually tends to suppurate. The inflammation which causes the bubo is, however, due to some sore in its immediate neighbourhood, and which has a connection with the gland through the lymphatic vessels. If the bubo suppurates, it will be necessary to treat it as an ordinary abscess. Suppuration, however, may frequently be averted by applying a blister over the swelling, or painting the part with liniment of iodine once or twice a day.

*Bunion* is a swelling over a joint, usually that of the great toe. It is due to inflammation of the capsule of the joint, and is, as a rule, induced by continued pressure, possibly due to the wearing of too tight boots. When a bunion threatens the part should be leeched and well fomented at frequent intervals, and a proper fitting boot procured.

*Burns* and scalds are inflicted by heat, the one from a dry substance and the other from boiling water or oil. According to the length of application of the super-heated substance so will the relative severity of the burn or scald be. If the burn or scald be extensive and severe, it may have very serious consequences, and in any case will produce a severe shock to the nervous system. The proper treatment is to apply an antiseptic in solution as quickly as possible, and cover the part with sheets of cotton wool. If the pain is very severe, the application of cold to the part affords great relief. Cold water having in solution permanganate of potash is a very useful application in the circumstances. Condy's fluid, being a solution of permanganate of potash, may be employed in the proportion of a tablespoonful to a breakfast-cupful of water. Cotton or linen rags wrung out of this and applied to the

surface at frequent intervals will prove very serviceable, not only in relieving the pain, but in promoting healing. Afterwards, when the pain has disappeared and the dead skin has been removed, carbolised zinc ointment (one part of carbolic acid to 16 or 20 parts of oxide of zinc ointment) spread upon lint and applied to the sore, will assist materially in the healing process, or the raw surface may be sprinkled over with aristol, which will prevent the formation of pus and thus promote rapid healing.

*Calculus* is the term applied to biliary concretions, for description of which see *Biliary Calculi*. It is also applied to calcareous deposits in the kidney and bladder, for description of which see *Gravel and Stone*.

*Cancer* is a malignant disease which may attack any portion of the human body. By some it is said to be hereditary, but it would appear to be essentially due to the presence of minute organisms, which attack a tissue reduced in its vitality by some distinct cause. There are several varieties of cancer, such as epithelial, scirrhus, and colloid. It is essentially a disease of mature years, rarely occurring under thirty years of age, and being of such a nature that, if left to itself, it always proves fatal. This disorder is naturally dreaded by all. Its early recognition is of the utmost importance, as it is only in the first stages of its progress that it can be eradicated, and that for the most part only by a surgical operation. It usually commences as a hard, painless tumour of very small dimensions. It is more frequent in females than in males, and oftener attacks the breast than any other organ. Some trades are more liable to this disease than others. For example, chimney-sweeps and those working among paraffin oil are particularly susceptible to it, and in these individuals it generally attacks the scrotum. The skin, particularly that of the lip, is liable to invasion. Of the internal organs, the womb, the stomach, and liver are frequently the seat of it. If it attacks any one part, the

adjacent glands are almost certain to be affected sooner or later, hence the necessity of diagnosing the disease in its early stages, and removing the affected part before the surrounding tissues have become involved. It is gratifying to learn that within recent years a remedy for cancer of the womb, which at one time was responsible for so much suffering and so many deaths, has been discovered, and in the hands of the writer has proved efficacious in a very large majority of cases. This consists of the internal administration of thyroid gland of healthy animals, while the local symptoms are treated simultaneously by the bi-weekly application of ichthyol to the diseased surface by means of tampons.

*Cancrum Oris* is peculiarly a disease of a low state of the vitality. It is a mortification or gangrenous inflammation affecting the lips, cheeks, and gums of ill-nourished children. It is a most loathsome complaint, the first symptom of which is a red, hard, inflamed-looking spot on the cheek or lip, which rapidly develops an angry foetid ulcer giving off a most offensive odour. The great point in the treatment is to sustain the vitality of the patient by an abundance of good nourishment conjoined with stimulants, and in keeping the sore aseptic by frequent applications of antiseptic lotions, such as Condy's fluid, carbolic lotion, aristol, or solution of chlorinated lime or soda. A medical man should be called in as soon as possible, who will endeavour to destroy the diseased tissue, and establish a healthy condition of that immediately surrounding it.

*Carbolic Acid* is obtained by the destructive distillation of coal. It is in its crude state an oily-looking liquid, and resembles very much in taste a similar product derived from the destructive distillation of wood, which is called creasote. Carbolic acid and creasote resemble each other very much, both chemically and in their various properties. Carbolic acid is a potent antiseptic. They both have a destructive effect upon the life of minute organisms.

Carbolic acid is a powerful sedative, and is applied internally to allay vomiting and sickness. As an external application it is largely employed as a lotion, the strength of which may vary from two to five per cent. When purified it forms long needle-shaped crystals, which dissolve very rapidly. It is frequently combined with soaps on account of its antiseptic properties. The fumes of carbolic acid in steam are employed in the treatment of hooping-cough, and are frequently used as a disinfectant where contagious diseases are or have been present.

*Carbon* is an essential constituent of all living bodies. Its most familiar forms are plumbago or black lead, which is pure carbon ; the diamond, which is crystallised carbon ; and charcoal, which is carbon produced by combustion of vegetable or animal substances. It is a powerful anti-septic. It is sometimes taken in the form of biscuits, or in powder, by those suffering from indigestion accompanied by flatulence and eructations of a foetid nature. In combination with oxygen it is exhaled from the body at each expiration, carbonic acid being the result of a chemical change which takes place in the blood during its transition from arterial to venous. As carbonic acid it is a deadly poison when inhaled by the lungs, yet in solution it is quite harmless when taken into the stomach. It is this gas which gives the effervescent character to sparkling drinks, such as champagne, sparkling hock, bottled beer, soda, potash, and lithia waters, ginger beer, and lemonade. It is this gas which is called choke-damp. It is much heavier in its specific gravity than atmospheric air, and thus falls by virtue of its weight, forming a deadly stratum in ill-ventilated and overcrowded buildings, old wells, brewers' vats, the holds of ships, and certain valleys, such as the Death Valley of Java, so called because of its being entirely filled up to a certain level by this noxious gas. It is generated by a combustion of charcoal, hence the

danger of employing charcoal fires without due precautions being taken as to ventilation.

*Carbuncle*, although resembling a boil to the extent that it is due to the development of micro-organism in the substance of the skin, is a much more virulent affection. It may indeed develop from a simple pistule or boil, and is invariably an indication of a low state of the general health. Irritation aggravates it very much, and permits it to assume in some instances enormous dimensions. A carbuncle is essentially a destruction of the vitality of the skin, which results in gangrene or mortification of the part affected, and it is not until this mortified portion, or slough, comes away that healing can take place. It goes without saying that a carbuncle is a most painful and depressing disease, and not unfrequently it has proved fatal. The treatment consists in the indurated part being laid open by a crucial incision. This should be done early in the progress of the disease, and will invariably shorten its course. At the same time the bodily health must be well sustained by suitable nourishment, assisted by stimulants, the best of which is port wine.

*Carditis* is inflammation of the heart tissue, but cardiac inflammation is generally confined to the lining membrane of the sack in which the heart beats, and to the outer covering of the heart, when it is called pericarditis. The lining membrane of the heart may also be affected, when the disease is termed endocarditis. Pericarditis is accompanied by acute pain in the region of the heart, and frequently is followed by effusion of fluid into the sack, which naturally incommodes the heart's action to a very serious degree. Both pericarditis and endocarditis are intimately associated with a rheumatic condition of the system, and they are a frequent sequelæ of rheumatic fever. Such cases must necessarily come under the care of a medical practitioner.

*Caries* is a kind of ulceration of the bone producing

death of the part affected. It is usually due to a tubercular condition of the system. The muriate of calcium will be found an invaluable agent in cases of caries, if the remedy is persevered with for a prolonged period and a nourishing diet at the same time administered ; but not unfrequently it will be necessary to have recourse to surgical measures to get rid of the disease.

*Cascara Sagrada* is an American plant which possesses very valuable laxative and tonic properties. It is one of the safest laxatives that can possibly be prescribed, because it not only induces a healthy action of the bowels, but at the same time acts as a tonic to the muscular fibre of the gut, whereby it enables it to act of its own accord. Then, again, by relieving the lower bowel of its congested condition it reacts upon the circulation of the liver, thereby giving it considerable help, and enabling it to become restored to a healthier condition. The dose of the liquid extract of cascara is from fifteen to thirty drops taken at bedtime, and the best preparation is that of Messrs. Parke, Davies & Co., which can be obtained at all respectable druggists.

*Castor Oil* is one of the most popular as well as one of the most useful purgatives we possess ; it acts quickly and thoroughly, and does not require the dose to be increased when it is necessary to administer it at frequent intervals. It is highly useful in infancy and old age. When combined with laudanum it is invaluable in diarrhoea and dysentery. The great objection to castor oil is its nauseous taste, but this has been overcome to a great extent by Messrs. Allen & Hanbury, who have introduced an almost tasteless oil into the market. It can also be administered in gelatine capsules, when, of course, there is no taste whatever. Castor oil is also frequently employed as an injection ; two wine-glassfuls should be made into an emulsion with the yolk of one egg, and afterwards well mixed with a pint of thin gruel which has been previously

strained. The whole of this should be injected by means of the enema syringe, and retained as long as possible. The inunction of castor oil over the abdomen has often proved of great service in habitual constipation. For an infant a tea-spoonful should be well rubbed in over the abdomen night and morning, the quantity being increased in proportion to the age of older people.

*Catalepsy*, or Trance, is a very rare affection, and seems to be entirely nervous in its origin. Frequently when catalepsy exists the signs of life are so apparently absent that the individual may be looked upon as dead, and doubtless burials have taken place when the patient has been in this condition. If catalepsy is supposed to exist ammonia should be applied to the nostrils, and ether or brandy injected under the skin, while friction should be applied to the surface of the body. Electricity is also a useful agent in these circumstances.

*Catamenia*, or the monthly discharges in the female. See *Menstruation*.

*Cataract* is the term applied to that affection of the eye which, as a rule, does not come on till life is well advanced. It is due to an opacity of the crystalline lens, and is a disease which is usually gradual in its development. An oculist should be consulted in such cases, which are generally amenable to operative means.

*Catarrh* literally means "a running through." It is characterised by a running secretion of mucus, and is, as a rule, a consequence of exposure to cold. It may attack any mucous surface, such as the air passages, the ear, the stomach and alimentary canal, the bladder, urinary passages, vagina, etc. What is commonly designated a cold in the head is a most characteristic example of catarrh. Some constitutions, principally those with a rheumatic tendency, are very liable to this disease, and in many instances we meet with people who are afflicted with the disorder in the chronic form, it being never altogether

absent in their case. The treatment consists in endeavouring to soothe the irritation of the canals of the mucous membrane affected, and in the administration of remedies which act upon the affected surfaces. For catarrh of the several organs see special articles. Catarrh of the nasal mucous membrane is a premonitory symptom of several diseases, such as measles and influenza. In these circumstances it is usually accompanied by an irritable cough, which indicates that the irritation is not confined to the nasal tract alone. Catarrh of the air passages may frequently be aborted by the inhalation of steam impregnated with creasote, menthol, eucalyptus oil, pumiline essence, and benzole.

*Cathartics*, or Purgatives, are medicines which promote an evacuation of the bowels, and are largely employed as domestic medicines. The most popular cathartics are castor oil, Epsom salts, senna, aloes, and cascara sagrada.

*Catheter* is an instrument made either of silver, gum elastic, or india-rubber, which is employed to draw water from the bladder when the natural efforts fail. It is always essential that great care be taken in using this instrument, as injury to the urinary canal may easily follow its careless use. It should always be rendered aseptic before being used.

*Caustics* are substances which have a destructive effect upon the animal tissues. The principal caustics in use are nitric acid, nitrate of silver, chloride of zinc, caustic lime, caustic potash or soda, and ascetic acid. Chromic acid and salicylic acid are frequently employed for the purpose of destroying warts and corns.

*Cautery*.—This term is usually employed when a caustic effect of a hot metal is rendered necessary, either for the destruction of abnormal growths or to create an intense amount of counter-irritation. The instrument mostly employed for these purposes is Paquelin's cautery, the heat of which is kept up by the combustion of benzoline

within a platinum tube. Iron, heated to a dull red heat, is also employed for this purpose.

*Cellular Tissue* is that peculiar membranous web or network which connects the various tissues of the body, filling up the interstices between them. It is made up of numberless rows of cells crossing each other like a complete network, and containing in the meshes of the network small intercellular spaces which communicate with each other throughout the body.

*Cerebellum* is that portion of the brain which occupies the posterior portion of the skull cavity.

*Cerumen* is that waxy-looking matter which the membrane of the external ear secretes. In catarrh of the ear it frequently accumulates to an abnormal extent, and thus is a frequent cause of deafness. When this has occurred the hardened mass should be softened by the introduction of a drop or two of warm glycerine, and then the ear syringed with warm water in which a little soap has been dissolved.

*Chalk Stone* is that concretion which is liable to be deposited in the joints of those who suffer from gout. It is composed mainly of urate of soda, therefore soda should be avoided by all who have a tendency to gout. Potash or lithia are the most useful antacids to be employed when there is gout or rheumatism in the system.

*Chalybeates* is the term applied to those medicinal springs which contain iron. For instance, the chalybeate springs of Tunbridge Wells, Scarborough, Cheltenham, and Harrowgate, but they are pretty widely distributed all over the country. It is desirable, when chalybeate waters are partaken of, that some saline should be combined with them, as iron always acts more efficiently as a blood restorer when the bowels are kept slightly loose.

*Chancres* are ulcers which result from the specific poison of venereal disease. They generally commence as small pustules, which break down and form an ulcer of a

yellowish-grey appearance, round which the skin is indurated. Whenever these appear the surface should be freely cauterised, so as to destroy all the unhealthy tissue, but in every case the patient should apply for medical aid.

*Chapped Hands* are the result of carelessness in drying the parts after washing when the weather is frosty. The employment of a soap containing an excess of alkali also tends to give rise to this affection. Where the tendency to this complaint is very pronounced the application of vinolia cream or lanoline will prove helpful in warding off the affection. The greatest benefit, however, will be obtained by using—for toilet purposes—the soap known as paraffin soap, which has a most emollient effect upon the skin.

*Chest*, technically termed the Thorax, is the cavity of the body containing the lungs, heart, and large blood-vessels. The gullet and wind-pipe also pass through this cavity in a portion of their course. It is separated from the abdomen by the diaphragm, and its upper portion is bounded by the neck. The development of the chest may be cultivated to a large extent by judicious gymnastic exercise.

*Chest, Water in the*, or Hydro-Thorax, is the result of pleurisy where effusion into the pleural cavity has taken place. It is always an alarming symptom, as the space occupied by the fluid inconveniences the expansion of the lung tissue, to the extent frequently of preventing the action of the lung entirely. It is therefore desirable to get rid of it as expeditiously as possible. If, therefore, signs of absorption do not speedily indicate themselves there should be no hesitation in having the chest tapped, and thus ensure complete removal of the fluid before damage to the lung has resulted.

*Chicken-Pox* is a zymotic disease, and is highly infectious. It occurs principally amongst children, and only

once during life. It may be preceded by slight feverishness, afterwards the eruption, composed of pimples with white heads, appears on the breast, shoulders, face, scalp, and body generally. It may also affect, and very frequently does, the tonsils and roof of the mouth. On the third or fourth day the white vesicle dries up, forming a crust, which soon drops off. If the vesicles are not irritated they will pass away without leaving any mark, but as they are apt to be very itchy, the little patient, by rubbing them, may so irritate the part as to create a slight ulcer, which will result in a little indentation or pit. To obviate this irritability it is usual to apply a little carbolised oil to the itchy part, which will speedily allay the irritation. The great point in the treatment of chicken-pox is to keep the patient indoors and to attend to the daily evacuation of the bowels.

*Chilblain* is a very modified frost-bite, whereby the skin becomes inflamed, irritable, and disagreeably itchy. It is more liable to occur in persons who are weakened by disease, and in those who are of a rheumatic constitution. The best application for chilblains is carbolised zinc ointment in the proportion of one part of carbolic acid to sixteen or twenty of the ointment. The application of tincture of iodine has also been recommended.

*Child-Bed* is applied to the term occupied from the commencement to the end of labour. In these circumstances it is highly desirable that the most rigid hygienic measures be employed, both with regard to the furnishing of the bed and to the surroundings of the apartment. During the progress of labour much may be done for the relief of pain by the administration of chloroform in the second stage. The recovery from child-birth will be very much accelerated by rendering the parts aseptic by means of judicious douching with an antiseptic fluid, such as Condy's fluid mixed with warm water and employed night and morning. After the birth of the child the mother should be kept

free from every anxiety and worry. Her food during the first two or three days should be of the simplest kind. After the bowels have been moved, say on the second or third day, a little soup may be administered in addition to the milk diet which she has before been receiving. On the fourth day an egg or a piece of fish may be added to the diet, and afterwards her ordinary food may be given with perfect safety. Not unfrequently, and especially after a severe labour, there may be considerable difficulty in relieving the bladder, when it will be necessary to accomplish this by means of the catheter, which should be used at least twice a day. The patient should not be allowed to rise from the recumbent position, except to perform the ordinary duties of nature, until the tenth day. On this point, however, very different opinions exist, as it is held by some that the erect posture is more conducive to the free elimination of the discharges which naturally follow child-birth ; but if the parts are regularly syringed with an antiseptic fluid any danger from the retention of these is entirely obviated. See "Woman in Health and Sickness;" Bryce & Sons, Glasgow.

*Childhood* is always an anxious period to parents in consequence of the inability of the infant to indicate the symptoms from which it may be suffering. One thing may be accepted as an axiom, that if a child is fretful and cross there is some cause at the root of this. As a rule, this will be found to exist in the digestive organs, and is frequently caused by pains due to flatulence. These may generally be allayed by a dose of castor oil, or the administration of a little carminative combined with a small dose of bicarbonate of soda. The child should be bathed regularly night and morning, and always sponged after an evacuation of the bowels or passing of urine ; the parts in the immediate neighbourhood, after being thoroughly dried, should be dusted with oxide of zinc powder, so as to prevent scalding at the folds of the joints. It is always better

that an infant should sleep in a cot, and not with the mother or nurse. If this advice is carried out, it will be found that the sleep will not only be more prolonged, but much less disturbed than it would otherwise be. The nursery should always be well aired, but free from draughts. The most natural food of the infant is certainly the mother's milk, and, if possible, every mother should suckle her own infant, and if she is unable to do this, then a wet nurse should be procured. The clothing should be comfortably warm, but not excessive, as frequently more harm is done by overloading the child with clothes than is generally suspected. Not unfrequently a small abscess filled with milk will be detected in the infant's breast. This, as a rule, will prove of little moment, but sometimes it will be necessary to poultice the part before the fluid contained in the breast can be evacuated. If the child is born with a rupture, which occasionally does happen, a suitably fitting truss should at once be applied, and he will, as a rule, in a few years get quite well. During teething the digestive organs are frequently upset, and it is always desirable that during this period the bowels be kept on the loose side, and the infant taken into the fresh air as much as possible. Vaccination should, if possible, be performed about the fourth month. See "Our Children," David Bryce & Son, Glasgow.

*Chloral* is a soporific which at one time was most popular, but in consequence of its popularity came to be too freely employed as a means of procuring sleep. The consequence is that it has fallen into considerable discredit, and this arises from the fact that individuals indulged in it too freely, and thereby acquired the habit of depending upon it, this habit resembling to a large extent the craving for alcoholic stimulants. The dose of chloral, when legitimately used for procuring sleep, is from 15 to 30 grains given at bedtime.

*Chloralamid* is another soporific which may be given with

considerable benefit in sleeplessness, and does not seem to produce any injurious effects when taken occasionally as a hypnotic.

*Chloroborom* is a substance which has been prescribed in sea-sickness. The dose is one ounce repeated every two or three hours if necessary.

*Chloroform* is, as a rule, administered to children without much danger, and should always be employed if an operation, however slight, is requisite. The inhalation of this anæsthetic will also be found most useful when convulsions occur during childhood, as thereby the convulsive movements will be immediately checked, and frequently a fatal issue avoided. In the administration of chloroform there is practically no danger if Junker's Inhaler is employed, as by this apparatus the chloroform is sufficiently diluted with atmospheric air before it enters the lungs as to render it innocuous as far as its poisonous properties are concerned. This statement may appear to some to be most sweeping in its character, but the author is speaking from a very extensive experience, in which he has never seen even the approach of an alarming symptom. Accidents are invariably the result of carelessness on the part of the anæsthetist.

*Chlorosis* is an aggravated form of anæmia, and is invariably the result of prolonged constipation in young women, when it is usually accompanied by cessation of the menstrual periods. It is always accompanied by languor, palpitation of the heart, and disturbed sleep. The deterioration of the blood accounts for the peculiar greenish tint which is characteristic of the disease. The treatment consists in procuring a daily evacuation of the bowels, and the administration of iron, together with plenty of fresh air.

*Cholera*, properly so-called, is of Asiatic origin. Fortunately, the advance in sanitary science has practically stamped this disease out of existence in our country. It is,

like every epidemic disease, due to the development of a microscopic organism within the body. This has been identified by bacteriologists, and has the form of a comma, hence it is called the comma bacillus. It takes possession of the alimentary canal, where it produces its virulent symptoms. These are very violent in their nature, and develop very rapidly. The symptoms commence with diarrhoea and a sinking sensation in the stomach; the diarrhoea rapidly develops in virulence, and the stools become very frequent and accompanied by severe cramps of the limbs and abdomen. The character of the stools is very distinctive of the disease, and resembles thin gruel or rice water. As the disease advances the surface becomes cold, livid, and bathed in profuse perspiration; this is called the collapse stage, and frequently terminates fatally. The treatment consists in keeping up the animal heat and endeavouring to arrest the great drain that takes place of the vital fluids. Opium has always held a prominent position in the treatment of this malignant disorder, but probably the most efficacious means is the frequent administration of antiseptic remedies, the most useful in this disease being naphthaline. Cholera, although epidemic in its nature, is not necessarily infectious, but is generally due to the imbibing of fluids containing the germs of the disease.

*Cholera, British*, is characterised by copious diarrhoea, accompanied by spasmodic pains in the region of the abdomen and limbs. It is generally caused by eating unwholesome fruit. The proper course to pursue in such circumstances is to clear out the bowels by a dose of castor oil and laudanum, 20 or 25 drops of the latter being given to an adult, and less according to the age of the patient, after which chalk mixture containing an astringent and laudanum may be given at regular intervals.

*Chorea*, or St. Vitus's Dance, is essentially a disease of a rheumatic origin. It is characterised by involuntary

movements of the voluntary muscles, and is practically a disease of childhood. It is generally consequent upon a constipated condition of the bowels occurring in patients with a rheumatic constitution. During the progress of the disease the patient does not appear to have any control over the movements of his limbs and face. It is frequently followed by disease of the valves of the heart, resembling in this peculiarity the sequelæ of rheumatism. The treatment consists in procuring a daily evacuation of the bowels and giving nerve tonics, the best of which probably is the valerianate of zinc and arsenic combined with the extract of conium, which tends to soothe the irritable condition of, and gives tone to, the nervous system. Bromide of potassium has also been employed as a remedy, but this only acts temporarily, and, moreover, it has to a certain extent a depressing effect, which is not desirable when chorea is present.

*Cicatrix* is the substance which takes the place of skin in the covering of a wound either of the integument or mucous membrane. Cicatricis arise when a portion of the true skin has been destroyed, as in burns, sloughs, or ulcers. It has not the appearance of skin, nor does it possess a like vitality, and is therefore more easily injured, and not unfrequently it becomes the seat of chronic sores and cancer. Cicatricis, and especially those of some extent, are very liable to contract, and thus produce deformities.

*Circulation* of the blood is its complete circuit from the left ventricle of the heart to its return to the same cavity. Its course is through the arteries, thence through the capillaries, and afterwards through the veins, by which channels it reaches the right auricle of the heart. It would appear that the heart acts in two capacities—first, as a force-pump, propelling the blood through the arterial system; in its return through the veins its onward course is aided to a certain extent by muscular contraction of the voluntary

muscles, and also by the fact that the veins are largely supplied with valves which have the effect of preventing the current from proceeding in any direction but towards the heart. When the large venous trunks are reached, the right side of the heart commences to act in its second capacity—viz., that of an exhaust-pump; when the auricle expands atmospheric pressure acting upon the blood current assists in the propulsion of the fluid into the exhausted chamber of the right auricle. The valves of the heart are so arranged that the current can only travel in a certain direction, and its muscular walls are so constructed that it possesses immense power both in expansion and contraction. The generally accepted theory that the heart only acts as a force-pump seems to be quite out of keeping with the fact that if a vein is opened near the heart the air will be drawn into the circulation, and prove rapidly fatal, in consequence of the frothy condition of the blood which immediately ensues. After the blood has passed to the right auricle it is next received by the right ventricle, by which it is propelled through the pulmonary circulation, and thereafter reaches the left auricle, from which it passes into the left ventricle, which is the fountain-head of the arterial system.

*Clavicle*, or Collar-Bone, is that long bone which stretches from the sternum, or breast-bone, to the shoulder-blade at the top of the chest on each side. It is frequently the seat of fracture, and causes, in many instances, no little difficulty to the surgeon in his endeavours to set and retain the fragments in position.

*Clergyman's Sore Throat* is a peculiar condition of the throat and larynx, the effect of prolonged use of the voice and straining of the vocal chords. It is characterised by hoarseness and catarrh of the mucous membrane; the voice loses its normal tone, and not unfrequently disappears altogether. It is generally associated with a rheumatic constitution. The proper treatment is rest, and repeated

inhalations of creasote, eucalyptus, or pumuline in the vapour of steam. The general system should at the same time receive tonic treatment. The application of electricity to the throat has also proved of immense service. The best internal remedy is the glycerate of tar, combined with minute doses of arsenic.

*Climacteric* is the term applied to that period in a woman's history which is popularly termed the Change of Life.

*Climate*, from a hygienic point of view, does not depend entirely upon the atmospheric conditions of any tract of country, but quite as much upon the character of the soil. A clayey soil, from its non-porous nature, will retain moisture for an undue length of time, and is therefore liable to impart a humidity and dampness to the atmosphere, which will prove in many forms of disease to have an injurious influence, whereas if the soil is of a gravelly nature, it is from this fact porous, and therefore the atmosphere is dryer and more bracing in the immediate neighbourhood, and the district will thereby be more advantageous as a health resort. As is well known, the proximity of trees, and water, and elevation are powerful influences in modifying the climate.

*Clothing*.—The effect of clothing upon health requires great consideration. First of all, the skin should be enveloped in flannel, of finer or heavier texture as circumstances dictate, but at all times that portion of the raiment which is in contact with the skin should be composed of woollen fibre. The composition of the outer clothing is not of so much consequence, but it is important to note that, as a rule, people are more apt to overclothe than underclothe themselves. Especially is this the case with children, who are thereby rendered more sensitive to cold. Of course, it goes without saying that frequent cleansing of wearing apparel is highly conducive to the maintenance of health. Certain articles which are worn in cold weather,

such as chamois-leather vests, felt and fur, so-called chest-protectors, and other articles which are impervious to the atmosphere, should be condemned. Warmth kept up by means of clothing which promotes free ventilation is a powerful factor in maintaining a healthy condition of the skin.

*Club-Foot* is a deformity of the foot due to a contracted condition of one or other of the tendons which are, in conjunction with the muscles, regulating its movements. When attended to in early life it can, as a rule, be easily remedied by a simple operation.

*Coagulation* is a term applied to the clotting of blood when it is drawn from the body and comes in contact with a foreign substance, by the action of two constituents of the blood named globulin and liquor sanguinis upon each other, the result being the production of fibrin, which is the composition of coagulum.

*Coal Gas.* See *Carburetted Hydrogen*.

*Cobra-di-Capello* is the name of one of the most deadly snakes in India. The bite of the reptile should be immediately cauterised by a hot iron, or excised with the knife. The application of strong ammonia to the wound frequently has a most beneficial effect, and recently the injection of strychnine in large doses, and also the subcutaneous injection of a solution of chloride of gold, have proved efficacious in several instances.

*Cocaine* is a crystalline substance obtained from the coca leaf. It has the power of producing local anaesthesia, and is useful in the treatment of diseases of the eye, toothache, a hyper-sensitive condition of the nipples, haemorrhoids, etc. Many operations have been performed under the local anaesthetic effects of cocaine, such as the extraction of foreign bodies from the eye, the removal of cataract, and the operation for squinting. It has also been employed to deaden the pain in the extraction of teeth; and small operations on various parts of the body have been under-

taken when the subcutaneous injection of cocaine has been the only means of destroying the pain of the operation, and in many instances this has been highly efficacious. Cocaine, however, should never be injected subcutaneously in close proximity to the head, its beneficial and non-injurious effects being more apparent when it is introduced by this means into regions requiring operative measures, when these regions are at a considerable distance from the brain.

*Cod Liver Oil* holds a high place as a curative remedy in many diseases, such as scrofula, consumption, and rheumatism. Its efficacy is very much increased by its being combined with extract of malt, which has the additional advantage of rendering the oil less nauseous, and therefore more acceptable to children. When combined with malt it is not so liable to be rejected by the stomach, and is at the same time more readily assimilated.

*Colchicum* is a popular remedy for gout. It, however, requires to be administered with great care, as its effect upon the heart is depressing. The preparations of colchicum which are usually employed are the tincture, wine, and extract—the dose of the two former being from ten to thirty drops, and of the latter from half-a-grain to one-and-a-half grains, three times a day after meals. Colchicum has a slightly laxative effect upon the bowels, and this may possibly be the reason why it is so efficacious in gouty affections.

*Cold* may be said to be simply the absence of heat. The extraction of heat from the body by exposure to cold often leads to most disastrous results, causing a depression of the vitality and susceptibility to disease. Many diseases which are directly attributed to cold are only due to this agent in a secondary degree; just as the inhalation of impure gases renders the system susceptible to typhoid fever, so does exposure to cold act in inducing diseases such as rheumatism, pneumonia, catarrh, and congestion.

of the various organs—that is to say, the organisms which are intrinsically the cause of these diseases are enabled to gain a footing within the system in consequence of the lowered condition of the vitality resulting from exposure, when, if this had not occurred, the system would have been able to withstand and conquer the disease-producing entities.

*Cold in the Head*, or Catarrh, is due to congestion of the mucous membrane, and hyper-secretion is the result. It is an infectious disease, but does not in every instance necessarily arise from exposure to infection; it is frequently the result of a chill, or of sitting or standing for an unduly long period in a draught of cold air. Those of a rheumatic temperament are more susceptible to this affection than those who are free from this tendency. When a cold in the head is threatening, the best method of cutting it short is to inhale such substances as creasote or menthol, along with the vapour of steam. The steam so impregnated acts as an antiseptic, and therefore is a destructive agent to the minute organisms which keep up the irritation of the mucous surfaces. Frequently cold in the head, especially in young children, spreads by continuity of tissue into the bronchial tubes, and even into the minute capillary tubes which ramify in the lung substance, giving rise to what is popularly termed capillary bronchitis and pneumonia.

*Colic* is a painful spasmotic contraction of the muscular coat of the bowels, particularly that of the large bowel, or colon. It may be caused either by a large accumulation of wind, or the presence of some irritating matter, such as undigested food or hardened faeces, too powerful purgatives or poison, as well as by exposure to cold. The characteristic symptom of colic is pain coming on in paroxysms which last for a shorter or longer period, and then gradually pass away, only, however, to recur within a short time. The pain is frequently relieved by firm

pressure over the part, and in this it differs from inflammation, which, on the other hand, is aggravated by pressure. The seat of the pain is usually in the region of the navel. If the pain is due to flatulent distension this will frequently be relieved by raising the buttocks considerably above the level of the head, and by the injection of hot water. If this is not practicable, then the application of hot fomentations, freely sprinkled over with laudanum, upon the abdomen will prove of great service. Internally, the combination of nepenthe, essence of ginger, chloric ether, and tincture of cardamoms will act most efficaciously as an anodyne.

*Colic, Lead,* is a disease of much more serious nature than the above, and is due to the absorption of lead, either from constant contact with the skin, or from being taken in small quantities into the stomach in solution. It is accompanied by obstinate constipation, and is recognised by a blue line appearing at the junction of the teeth and gums. Paralysis of the wrist, or drop-wrist, is also a palpable symptom.

*Colon, or Large Bowel,* is that portion of the bowel which receives the faeces after the nutritive properties have been extracted from the ingesta.

*Colotomy,* or opening into the colon, is an operation which sometimes is necessary for the relief of symptoms due to disease of the rectum, or because of obstruction of the bowel from other causes.

*Coma* is a state of insensibility resulting from some pernicious influences acting upon the brain, and may be due either to direct injury, to the absorption or retention of poisonous matter within the economy itself, or to the effects of narcotics or intoxication of one kind or another. It is a frequent precursor of death in diseases such as apoplexy and other affections of the brain, and also where the functions of the kidney are in abeyance.

*Complexion* may be divided into fair and dark, but it

may vary between these two points. Again, we may have the pallid and florid complexion, the latter being due to an excess of blood, and the other to a deficiency of it, or an absence of the colouring matter of the blood. If, however, the individual is in bad health, the complexion frequently gives indication of the cause—*e.g.*, in constipation and biliaryness the complexion becomes sallow or dusky, this being due to the fact that the blood is contaminated by the presence of some foetid or excrementitious matter absorbed from the bowel. If the complexion is yellow, conjoined with yellow discolouration of the whites of the eye, we may conclude that there is some deficient excretion of bile, or, in other words, that the individual is suffering from jaundice. Frequently there is a dark rim round the eyes, combined with a dusky colouration of the skin; this is generally associated with constipation. In other instances the face has a waxy appearance, when it is suggestive of kidney disease. If the skin is pallid, and this pallor is conjoined with a loss of colour in the mucous membrane of the eyelids, nostrils, lips, and gums, the cause is usually anaemia. In short, from the complexion a considerable amount of information may frequently be gathered which will guide the physician very much in his diagnosis.

*Concretion* means an unusual aggregation of substances within the body, such as occurs in the gall and urinary bladders, kidneys, joints, and also in the intestines, the latter arising from taking some substance in excessive quantities into the stomach. In many instances hair in large balls has been found in the stomach, also pieces of thread. Magnesia, when partaken of too freely, is liable to accumulate within the intestinal canal.

*Concussion* is the effect of a severe blow upon the head or spine. In concussion of the brain the consequences are alarming at first, but usually they are of a transient nature and soon pass off. The immediate effects of concussion

are insensibility, frequently followed by vomiting. The treatment of such cases consists in endeavouring to remove the shock which is the immediate cause of the attack. This is best done by the administration of stimulants, such as ammonia, brandy, or whisky, and the application of ammonia to the nostrils and cold to the head and face; and immediately following these, the application of mustard and hot water to the feet and over the stomach.

*Congestion* means an overloaded condition of the blood-vessels in any one part. This may lead to effusion of the liquid portion of the blood into the tissues immediately surrounding the seat of disease. In the popular mind it is usually synonymous with inflammation, and is marked by a sensation of heat, pain, and swelling of the part—*e.g.*, congestion of the throat, of the lungs, or the kidneys are all due to inflammatory action in these organs. The proper treatment in such circumstances is to endeavour to counteract the morbid process by means of poultices, blisters, or sometimes even cold applications, and, at the same time, reduce the temperature of the body by suitable antipyretics.

*Conjunctiva* is the membrane which covers the eyeballs and eyelids. It is of a white pearly colour, and over the cornea and iris is a perfectly transparent membrane. It is liable to inflammation, which is termed conjunctivitis. This may arise either from direct contagion or exposure to cold. Until a medical man is called in great relief may be obtained by bathing the eyeball with a strong infusion of tea to which a few drops of laudanum have been added, while one or two grains of quinine may be given every three hours. The introduction of a drop or two of a five per cent. solution of cocaine gives immediate relief to pain, and frequently cures the disease.

*Constipation* has been so fully treated upon in the introductory portion of this book, that it is unnecessary to enter upon its consideration again.

*Consumption* is a disease which is due to the development within the tissues of the tubercle bacillus. It is probably the greatest scourge that ever visited mankind, and is responsible for more suffering and deaths than almost any other disease ; in fact, its ravages produce about one-fifth of the death-rate of the adult population, and in children it is equally fatal. It is considered a hereditary disease, so far as the facts and deductions at our command seem to indicate. At the same time it must be looked upon as a specific disease, and due, in its essence, to the presence of a particular micro-organism which has the power of attacking and invading tissues such as the lungs, glands, and bones, in which it develops its virulence. Consumption is usually the term applied to pulmonary disease where tubercle is the power at work. It is manifested by a cough accompanied by copious expectoration, which comes away chiefly in the morning. Unlike the usual expectoration of bronchitis or catarrh, which, as a rule, is frothy, the expectoration of tubercular disease is characterised by its purulent nature, which may sometimes be streaked with blood, or even accompanied by spitting of blood. Technically, the expectoration is termed nummular, in consequence of its resembling somewhat in shape and form a coin. Its consistence is denser than that of any other form of expectoration. Another symptom of consumptive or tubercular disease is wasting of the body, the emaciation proceeding in some instances to an extreme degree. It is frequently accompanied by profuse perspiration, especially at night. The extremities of the fingers become clubbed, the face pallid with a hectic flush on each cheek, and in many instances there is profuse diarrhoea, and if the mucous membrane of the larynx is also attacked there is hoarseness, in some cases proceeding to actual loss of voice. Consumption, to be curable, must be detected in its very earliest stages, when a change to a dry, bracing, and cold climate, such as is found in some parts of the Engadine,

will have a most beneficial effect; a long sea voyage is also a popular remedy which has proved of great service; conjoined with these a good nourishing diet must be prescribed. Cod liver oil, syrup of hypophosphites, muriate of calcium, creasote, and other remedies of a like nature have proved most efficacious in enabling the constitution to overcome the disease and expel it from the system. As is well known, Koch has recommended the subcutaneous injection of a substance which he calls tuberculin, while others have advised the employment of a compound of cantharidin with some mineral salt; others, again, have recommended the subcutaneous injection of chloride of zinc; but all these local applications can in reality have little effect upon the disease, which is essentially a constitutional affection. The grand point in treating consumption is to strengthen the organism attacked, so that each individual cell composing that organism will be rendered capable of exerting its powers to the full, and so resist the multiplication of the entities which constitute the real essence of the disease, and thus prevent them getting a footing and a hold upon the individual. Muriate of calcium would appear to have the most powerful effect in accomplishing this end, and it seems to me to be beyond doubt the great remedy which in future we will depend upon in the treatment of this disease, which has hitherto proved to be a most fatal affection. Of course, no treatment of a disorder of this nature can of itself cure or arrest it. Medical treatment must therefore be accompanied by strict attention to the laws of health. A good and nourishing diet must be partaken of, whilst the body should be well and comfortably clothed, flannel in every instance being worn next the skin. The apartment which the patient sleeps in should be airy and well ventilated. It is a curious circumstance connected with this disease, that patients from it never seem to realise its danger, but invariably are buoyed up by most optimistic views. It should always be borne in mind that

consumption is to a considerable extent an infectious disorder, and therefore it is desirable that those who are in a healthy condition should avoid occupying the same bed, or even the same apartment, with a patient suffering from this affection.

*Contagion* means literally the contracting of disease by touch. The term is applied, however, to all infection contracted either by breathing the air exhaled from a patient, or by drinking out of the same vessels, or using the same clothing as that which has been utilised by patients suffering from infectious disorders. This power of propagating disease is due to the fact that the organisms which are the disease-producing entities are transferred from one individual to another, and it is then called epidemic disease. Endemic, on the other hand, is applied to those diseases which come and are spread independently of infection—*e.g.*, influenza, which appears to come in a wave, and attacks whole communities without any evidence to indicate that it is spread by infection or contagion. There are certain forms of contagion which, if antiseptic precautions are not thoroughly and efficiently employed, may linger about a piece of furniture or clothing, or a bedroom, for months after the disease has apparently disappeared, thus showing the great necessity of employing disinfectants, not only to the individual, but to all his surroundings, immediately that convalescence has been established. The most virulent form of diseases, such as scarlet fever and small-pox, have been known to develop months after all fear of infection has been apparently removed. No precaution, when the disinfecting process is being carried out, should be overlooked, and the most minute details with regard to this sanitary measure should be rigidly enforced. The best antiseptics to employ in the circumstances are carbolic acid, chlorine, sulphur, eucalyptus, etc., and one or other of these ought to be freely employed, not only when the house is being disinfected, but during the progress of the

disease. A good plan is to hang a sheet over the doorway of the apartment where the infected patient is lying, and to keep this freely sprinkled with a saturated solution of carbolic acid in water. By this means the air that passes out of that apartment will be disinfected before it gains access to the other parts of the house. The ventilation of the room should also be made certain by keeping a fire constantly burning.

*Contusion* is applied to injuries arising from bruises, and is generally followed very rapidly by swelling of the part which has suffered from the blow. This swelling arises partly from rupture of the minute vessels which permits the exudation of blood into the tissues, and by the effusion of lymph which also takes place. The treatment which is most useful in these circumstances is to apply cold to the part, in the form of cloths wrung out of cold water, as rapidly as possible after the injury has been inflicted, thereby keeping in check the effusion of blood, and thus permitting the ruptured vessels to become closed by the formation of clots within their orifices.

*Convalescence* is that period which intervenes between the cessation of disease and restoration to health. It commences at the point where the disease process has completely ceased to act, and is, as a rule, characterised by a feeling at its commencement of great prostration, which very slowly or rapidly, as the case may be, gives place to the re-establishment of health and strength. In convalescence it is of the utmost importance to endeavour to restore the vital energies by the judicious yet frequent administration of suitable nourishment and stimulants, where the latter are thought to be advisable. A change of air in these circumstances is frequently of considerable service, but the grand point is to insist upon the patient taking food, and that of the most nutritious and easily-digested character, at frequent intervals, which should be continued even during the night—that is, if the patient is

not asleep. It must be observed, however, that sleep is one of the best restorers, or is the best restorer, that a convalescent can command, therefore this should never be disturbed on any pretext whatever. Sometimes it will be found that where there is restlessness and wakefulness during the night, if an egg-flip or a cup of strong nutritious soup be taken, sleep will speedily ensue, and that of a most refreshing nature. In convalescence from acute disease which has necessarily prostrated the vital energies to a considerable extent, it will be found that taking food frequently and liberally will aid very much in shortening the period of restoration to health. The management of convalescence is sometimes even more important than the treatment of diseases, for these, as a rule, run a certain course, and if the vitality of the patient be well maintained, will do so without causing much anxiety; yet, in some diseases, such as scarlet fever, measles, small-pox, pneumonia, influenza, etc., so many complications may arise in the course of convalescence that the greatest care must be exercised, and the most extreme vigilance employed to counteract the tendency to inflammatory affections which so frequently prevail during this period. The excretions must be rigidly watched; for example, the bowels should be acted upon at least once a day, and the condition of the urine carefully observed. If constipation exists it acts in a most pernicious manner, while an unhealthy condition of the kidneys may proceed to disease which may eventually prove fatal. During convalescence the bedroom should be well ventilated, the clothing be sufficient, and the diet and cooking most carefully attended to.

*Convulsions* are those distressing symptoms characterised by unconsciousness and involuntary movements of the muscles of the body at large. They are always of an alarming nature, and give rise to great anxiety to those interested in the patient. They are characterised by twitching of the muscles of the face, contortions of the

body, lividity of countenance, foaming at the mouth, and frequently biting of the tongue. They may arise from some reflex irritation, such as teething, constipation, or worms. On the other hand, they frequently are due to some organic mischief within the brain itself, such as epilepsy or congestion of the lining membrane of the brain, of vessels within the brain substance, or rupture of vessels within the cranium. An attack may come on without the least warning, but, as a rule, there are generally premonitory symptoms. If in children (and they are probably more liable to this nervous disorder than older people), the convulsion will generally be preceded by moaning in the sleep, grinding of the teeth, starting in a fright, irritability of temper, squinting or rolling of the eye-balls in sleep, a startled look about the face, and a constipated condition of the bowels. In an adult they are sometimes preceded by restlessness at night, noises in the ears, giddiness, depression of spirits, irritability of temper, confusion of the mind and want of power of concentrating the thoughts, loss of memory, and headache. The digestive organs are very frequently involved, and vomiting without any obvious cause is also a frequent concomitant. There may be hiccough, cramp of the limbs, and, as a rule, there is present a peculiar sensation which is called the "Aura," which will be immediately followed by the attack. Convulsions are rarely fatal when due to a cause outside the nervous apparatus, that is to say, when they are not due to some organic disease within the brain or spinal cord. Convulsions of children should be treated by immediately emptying the bowels, either by medicine or by an enema; a mustard poultice should then be applied to the nape of the neck and to the calves of the legs. If the convolution persists, the administration of chloroform should be immediately resorted to, when the spasm will be found to pass away as the patient comes under the influence of the anæsthetic. Ten grains of bromide of potassium, combined

with an equal quantity of chloral dissolved in water, will generally prove very efficacious in keeping the attacks in abeyance. In some instances it may be necessary to lance the gums. After the attack has been successfully combated, its recurrence should be guarded against by strict attention to diet and to the daily evacuation of the bowels. The warmth of the body should also be thoroughly maintained by judicious clothing. In every instance, however, where a convulsion occurs no time should be lost in having recourse to medical advice, as the treatment of such cases requires the best professional skill that can possibly be obtained.

*Cordials* are stimulants which are supposed to have an invigorating effect upon the heart's action. They are only useful where the circulation is languid, and where there exists a depression of the vital powers from any cause whatever. Brandy, perhaps, is the most popular of all cordials, but the tincture of cardamoms, sal volatile, and tincture of valerian are also to be classed in this category.

*Corn* is an excrescence generally situated upon one or other of the toe joints. It is a hypertrophied condition of the cuticle or epidermis of the part, and is, as a rule, due to friction or pressure arising from wearing tight boots. This, however, is not always the cause, the tendency to corns being generally hereditary. They therefore do not disappear when the apparent cause is removed, but may persist in spite of this. Sometimes what are called soft corns appear between the toes, and these, as a rule, are due to an excessive secretion of the skin causing irritation. They are generally productive of considerable uneasiness and pain. When corns are situated in this particular locality, they generally contain underneath the hardened surface of the skin an accumulation of fluid resembling in some respects the contents of an abscess. The treatment which gives the most speedy relief consists in removing the indurated surface, and afterwards applying a solution of

salicylic acid in collodion along with the extract of *Cannabis Indica*, the latter soothing the pain which the former is apt to give rise to. The salicylic acid has a destructive effect upon the cuticle, and in process of time is quite effective in eradicating the affection. Chromic acid has also a powerful destructive effect upon this thickened condition of the epidermis. The application of caustic at frequent intervals has also been advocated in these circumstances, but nothing seems to have the curative effect that salicylic acid combined with collodion possesses.

*Cough* is a violent expectoration which expels air and mucus from the air passages. It is invariably the symptom of disease, and not so much a disease of itself. It is always induced by the cold air impinging upon an irritated surface of the respiratory tract. When arising from disease confined to the larynx it is generally associated with a tickling sensation at the top of the windpipe, and is liable to assume in such circumstances a spasmodic character with little expectoration. When, however, the bronchial tubes or lung tissue are affected, the cough terminates in the expectoration of a mucous, or muco-purulent, or muco-sanguineous discharge. Cough in many instances, on the other hand, may be reflex in its character, and arise from derangement of the stomach, the irritation of worms, or some uterine disorder. In every instance where cough of a troublesome nature exists, it is wise to call in medical aid, so as to ascertain its proper source and the treatment to be applied. In the majority of instances cough usually arises from the effects of exposure to cold, and great relief, if such be the case, will be obtained by the judicious administration of an expectorant mixture, such as the following :—Chlorodyne, chloric ether, and ipecacuanha wine, of each three drachms, syrup of squills to make three ounces—a teaspoonful to be taken at intervals of two or three hours to soothe the irritable membrane and at the same time promote expectoration.

*Counter-Irritation* consists in applying an irritant to the surface, which, acting through the nervous system, relieves inflammatory action in the deeper structure—*e.g.*, if congestion of the mucous membrane of any of the organs of the body exists, then a counter-irritant applied on the surface over this will frequently give considerable relief. Counter-irritation may be either produced by mustard poultices, the application of croton oil liniment, acetic acid, fly-blisters, or the actual cautery, the latter being considered the most severe counter-irritant which we can employ. If mustard poultices are employed, these require to be repeated at intervals of three or four hours, whereas if acetic acid or croton oil is the counter-irritant preferred, then the application may not require to be renewed except at intervals of twelve or even twenty-four hours; but if the fly-blister or the actual cautery is decided upon, then a longer time will necessarily require to elapse before they are renewed. The two latter are generally employed where the disease is deeper seated or of a chronic nature. There is, perhaps, no more popular remedy in inflammatory affections than counter-irritation, and this claim to popularity is based upon its great utility, as there can be no doubt that this method of treating inflammatory affections is one of the most efficacious that has ever been adopted.

*Coup-de-Soleil*, Sunstroke, or Sun Apoplexy, is the direct effect of the sun playing for a considerable time upon the naked or insufficiently protected head, which produces congestion of the brain or its membranes. The symptoms are, throbbing of the head accompanied by sickness, and frequently followed by insensibility, and even death. The treatment should in every instance be very prompt, and consists in the application of cold to the scalp, either in the form of cold water cloths or ice bags, while the bowels should be thoroughly emptied by a purgative, and mustard poultices applied to the abdomen and extremities. The patient should at the same time be kept perfectly quiet

and free from any form of excitement, and the food should be of the simplest kind. See *Sunstroke*.

*Cow-Pox* is the disease affecting cattle which has all the characteristics of small-pox in the human being. It, however, is not of such a virulent nature, and therefore vaccination, which is simply the inoculation of a human being with the virus of the cow-pox, or vaccinia, is universally resorted to to render the individual invulnerable to small-pox, which effect it undoubtedly has; and being a disease of such a mild type renders the operation free from danger, while at the same time it protects the vaccinated person from the more loathsome disease.

*Crab-Louse* is the vulgar name given to the insect which locates itself in the hair round the pubes of dirty people, and which gives rise to intolerable itching and sometimes to sores in the parts. It is easily destroyed by the application of mercurial ointment or carbolic oil, while afterwards the parts must be kept clean by means of carbolic soap and water.

*Cramp* is a spasmodic affection of one or other of the muscular tissues. It may affect the voluntary muscles, such as those of the leg or thigh, also the involuntary muscles, such as those of the intestines or stomach. When cramp occurs the part affected contracts to such an extent as to produce a hard lump at the point of seizure. When it occurs in the bowels, it is generally due to some indigestible food in the stomach, or which has escaped from the stomach into the intestines. When it occurs in the limbs it is generally due to some reflex irritation conveyed from the stomach or bowels. It is a symptom of British and Asiatic cholera. It is also frequently due to disease of the heart or the large blood-vessels of the chest. Exposure to prolonged cold frequently produces cramp, and this is particularly noticeable in the cramp which seizes those who have been too long immersed in cold water, and is in many instances the cause of death to bathers. The best remedy

when cramp occurs is to use friction very energetically to the part affected. Bromide of potassium given internally is also a useful remedy, not only in relieving the spasm, but in preventing its recurrence. When the bowels are affected by this painful disorder, opiates, in one form or another, are exceedingly useful. In every instance where a person is liable to cramp particular attention should be invariably paid to the free evacuation of the bowels.

*Cream of Tartar*, or Bi-tartrate of Potash, is a popular remedy employed in conjunction with sulphur as a laxative. It also possesses useful diuretic properties when given in solution with water and lemon juice.

*Creasote* is a substance very much resembling carbolic acid in its properties and odour. It is obtained from the destructive distillation of wood, and possesses powerful antiseptic properties. It is employed both externally and internally as a medicine. Externally, it is frequently added to ointments, both on account of its antiseptic properties and its sedative effect upon the skin. Internally, it is applied to decayed teeth for the relief of toothache. It frequently enters also into the composition of inhalations, a few drops being added to a jug of boiling water and inhaled for the relief of bronchial affections, and also in common catarrh of the head. In the form of pill (one grain mixed with a little bread crumb) it has a sedative effect on the stomach, and thus is useful in vomiting. Creasote is not unfrequently employed in the curing of certain kinds of fish, they being dipped into a weak solution and then hung up to dry.

*Cremation* is the most natural, most expeditious, and most sanitary method of disposing of the dead. By this means, if the individual has died of a contagious disorder, the disease is completely destroyed along with its victim, and the noxious gases which are naturally generated by the decomposition of animal tissues are prevented, the atmosphere in consequence being uncontaminated and the

health of the people in the neighbourhood thereby not jeopardised. If people would only look rationally upon this, the best method to adopt in the disposal of the dead, they would necessarily come to the conclusion that cremation is most desirable.

*Cric.* See *Neck*.

*Crisis* is the term applied to a sudden change which takes place in the course of disease either for the better or worse. The crisis is generally associated with some well-marked symptom, such as copious perspiration, eruption on the skin, or some deposit in the urine. When the crisis for the better is established, it is followed by refreshing sleep, but on the other hand, if death is impending, the crisis is denoted by sudden loss of the vital powers.

*Croton Oil* is obtained from the seeds of the small plant called croton-tiglum, which is a native of India and Ceylon. The oil should be of a very pale amber colour and nearly as thick as castor oil. It is a very acrid oil, and as a purgative it is very rapid in its effects, a single drop being sufficient to produce copious evacuation of the bowels. Externally it is applied in the form of liniment, the oil being diluted for this purpose with cajuput, or some other bland oil. It has proved to be a most useful liniment in bronchitis. Its application is followed by a copious papillary eruption. Great care should be taken by those who apply the liniment that they do not bring it in contact with the face, as it will thereby produce intense irritation and swelling, especially if it is rubbed in near the eyes.

*Croup*.—There are two forms of croup, that of the most frequent occurrence being of a spasmodic nature, and due, as a rule, to reflex irritation produced by indigestion or constipation combined with slight cold. It most frequently occurs in early childhood, and is always a source of great anxiety to parents. The treatment should be commenced by giving a good dose of castor oil, and if this causes

sickness benefit will be derived, but in any case by clearing the stomach and bowels the cause of the spasm will be speedily removed. The chest, back and front, should at the same time be well rubbed with the following liniments:—Equal parts of the compound camphor liniment, belladonna liniment, and soap and opium liniment—a little to be well rubbed in over the back and chest at intervals of two or three hours. Sometimes it may be necessary to supplement a dose of castor oil with ten drops of ipecacuanha wine every few minutes until vomiting is produced. This medicine has the additional effect of promoting a flow of mucus in the windpipe and bronchial tubes. This form of croup goes under the name of spurious croup in contra-distinction to membranous or true croup. The latter, however, appears to be more allied to diphtheria, and therefore is always a most dangerous disease. See *Diphtheria*.

*Crystalline Lens* is the lens through which the rays of light pass and are concentrated upon the retina. Opacity of the lens constitutes the disease called cataract. The position of the lens is posterior to the aqueous humour and anterior to the vitreous humour. See *Cataract*.

*Cubic Space* is a term which is much used in connection with ventilation. It is essential that the cubic area of living and sleeping apartments should be ample for the requirements of the number of people who inhabit them; not only should the space be ample, but efficient means of ventilation insisted upon.

*Cupping* is a process of drawing blood by means of a series of lancets arranged with a trigger connection by which a spring is let loose, this carrying the knives rapidly through the skin at the required depth. Before the lancets are applied, congestion of the skin is produced by means of cupping-glasses in which the air has been rarefied by the insertion of a lighted wick. The glasses are again applied after the incisions have been made, so as to draw off the

required amount of blood. Cupping is not nearly so much in vogue as it was some years ago; it is still employed, however, to a certain extent, and is useful in certain inflammatory affections of the internal organs. In cases of poisoned wounds, the application of a cupping-glass is a good precaution, as thereby the poison together with the blood of the part may be withdrawn and thus prevent absorption of the virus.

*Cut Throat.*—Two great dangers which threaten life immediately in this horrible condition are, bleeding from the large vessels of the neck, and the liability of the blood to enter the windpipe, thus producing suffocation. If a non-medical person has sufficient presence of mind to act energetically on the instant, he may render considerable assistance by restraining the bleeding. If an artery is wounded the danger, of course, is much more imminent, and pressure would not be of much service. The proper course to adopt would be to endeavour to seize the bleeding vessels by forceps and tie them with a silk or cotton ligature until medical assistance arrives. If, on the other hand, a vein is wounded, gentle pressure with a handkerchief made into a pad and dipped in cold water would be effectual in arresting the bleeding. If the windpipe is wounded the patient should be laid on his side or front, so as to endeavour to keep the blood from gaining access to the wounded tube. Of course it goes without saying that medical assistance should be immediately sent for.

*Cyanosis*, or Blue Disease, is essentially venous blood circulating in the arteries. It is due to a congenital malformation of the valves of the heart, and is therefore an incurable affection.

*Cynanche* is applied to affections of the throat which tend to produce loss of voice and difficulty of breathing, such as *cynanche clericorum*, or clergyman's sore throat. See *Catarrh*.

*Cyst* is a membranous bag containing fluid or other morbid substances, which may be either semi-fluid or solid. Cysts frequently form just underneath the skin and especially under the scalp. Those found on the head are usually of hereditary origin, and contain a substance very much resembling porridge in appearance. These are called atheromatous cysts, and are easily removable. The cysts which attain the largest size are those of the ovary, but these are also removable with wonderful freedom from danger.

*Cystitis*, or Inflammation of the Bladder, may be due to exposure to cold, admission of air by faulty application of the catheter, direct injury, as in the case of instrumental interference in cases of labour, the presence of stone, or the introduction of poisonous matter from without. The symptoms are, great pain and frequent desire to make water, which, in consequence of the irritability of the organ, comes away in small quantities, or positive retention of urine may take place, accompanied by a strong desire to void it. Chronic cystitis, or catarrh of the bladder, is a serious malady, and frequently continues for a very long period. When the disease is acute the urine should be diluted by the patient partaking of fluids in large quantities, hot sitz-baths, and medicine containing an alkali combined with an anodyne, such as the following :— Bi-carbonate of potash six drachms, tincture of henbane six drachms, the infusion of uva ursi to make eight ounces—a table-spoonful of which may be taken three times a day. If the disease is chronic and the urine loaded with pus, boracic acid in ten-grain doses repeated three times a day is a most useful remedy, while the bladder should be washed out with a solution of the same acid night and morning.

*Damp*, or undue Moisture, either in the atmosphere or on the clothing, is productive of very evil consequences. Dampness in the atmosphere favours decomposition of

vegetable and other organic matter, which decomposition results in the development of gases producing pernicious effects when inhaled or imbibed after becoming absorbed by water and other fluids. A humid atmosphere always favours the development of microscopic life. This is amply exemplified in the potato disease, which never occurs if the atmosphere is dry and there is abundance of sunshine with free circulation of air. Dampness in tropical climates, especially that humidity which arises from marshy ground, invariably develops the germs of intermittent fever, or ague. A thorough system of drainage therefore should always be applied to land surrounding dwelling-houses, so as to ensure, as much as possible, complete evaporation of the moisture contained in the soil. By this means, regions which at one time were the hot-beds of disease are converted into healthy localities. Dampness in houses arising from imperfect drying of the materials employed in building is invariably injurious to the occupants of such dwellings. It is essential, therefore, that before a house which has either been repaired or newly built is inhabited, no trace of damp should be detectable in its walls. Damp clothing or bedding should be avoided, and in no instance tolerated. More mischief than can possibly be estimated has been done by wearing clothing loaded with moisture and by sleeping in bedding which has been imperfectly dried. The temperature of the body becomes so reduced when precautions against this are not taken that inflammatory mischief, in one or other of the internal organs, is very liable to occur, and, as is well known, numberless persons have contracted diseases which have eventually become fatal from being exposed to this danger.

*Dandelion*, or *Leontodon Taraxacum*, is a plant well known in almost every country in Europe. It is a medicinal agent of considerable value, especially in affections of the liver and kidneys. It is usually prescribed as an extract of the root, which may be taken either in a

semi-solid form or as a liquid. Sometimes the root is made into a kind of coffee and is taken to breakfast instead of ordinary coffee or tea. The dose of the liquid extract of taraxacum is from one to two tea-spoonfuls three times a day.

*Dandriff* is an affection of the cuticle wherein the complete development of the outer layer is interfered with, and is therefore cast off in scales. It is positively a disease of the epidermis, and is closely allied to that form of skin disease which is termed Pityriasis. Hard brushes and small-tooth combs should not be employed in this affection, but it is desirable that the scalp be washed two or three times a week with a solution of borax, and afterwards a pomade containing the red oxide of mercury applied. This application will have a curative effect upon the diseased condition of the cuticle and eventually cure the disease. Half an ounce of the red oxide of mercury may be added to two and a half ounces of ordinary pomade, and this will prove of considerable service in this affection. It frequently occurs in infants, but as a rule it will speedily disappear if soap is not used in cleansing the scalp, but instead, a solution of borax to which a little spirits of camphor has been added, and the oxide of mercury pomade may afterwards be applied with considerable advantage.

*Deadly Nightshade*, or Belladonna, is largely employed in medicine. In large doses, however, it is a powerful poison, and should only be taken under medical supervision. It has a powerfully tonic effect upon the involuntary muscular fibres, and is therefore employed to a considerable extent in ophthalmic practice, and it is also given in constipation and incontinence of urine.

*Deafness* may be either partial or complete. If it is congenital, the individual is also a mute, from the fact that he has never been able to hear sound, and therefore is unable to learn how to employ his vocal chords. The

causes of deafness may be temporary or permanent. It may also be due to an affection of the brain, or only to the mechanism of the ear itself. Temporary deafness is frequently the result of catarrh of the external ear, of the internal ear, or of the Eustachian tube. Some drugs also have a curious effect upon the auditory apparatus, such as quinine when given in too large doses. If deafness is due to obstruction in the external ear, this may readily be removed by the judicious employment of the syringe, with warm water. If, however, congestion of the throat or Eustachian tube exists, by which the calibre of the tube is reduced, or even temporarily obliterated, then, of course, it becomes necessary to treat the local affection and remove the thickened condition of the mucous membrane which obtains. In any case it would be injudicious for the patient himself to attempt to cure his own deafness; his proper plan would therefore be to consult a competent medical authority on the subject.

*Death-Rate* varies so much in different localities and amongst the various classes of society, that it becomes a question how far one is able to judge accurately what the longevity of a population might be if it was placed in the most favourable circumstances—*e.g.*, I have known the death-rate of Glasgow stand at 49 per 1000, while statistics showed that in one locality the actual death-rate was only 23, while in another it was as high as 81. In the latter the high death-rate was largely due to the want of natural affection of parents for their children, and thus the children were allowed to die off from want of ordinary care and attention. We will always find that wherever there is a large working-class population amongst whom dissipation exists the death-rate will be high, whereas in that class of society whose natural instincts are fully developed the death-rate will be proportionally low. A great many circumstances, such as situation, attention to sanitary laws, and climate, will invariably have the effect of reducing the death-rate of the locality.

*Debility*, or Weakness, is that failing of the vital powers of an individual which prevents him from performing his usual duties or enjoying pleasure as might naturally be expected if he were in health. Debility is invariably a concomitant of illness, and in many instances persists for a longer or shorter period after the illness has entirely disappeared ; it therefore becomes necessary in all illnesses to endeavour to sustain the vital powers, not only with a view to counteract this debility, but at the same time to enable the patient to throw off the disease. The feeling of debility often arises from indigestion and constipation. If due to dyspepsia alone it is always more pronounced after a meal, but if due to constipation it gives rise to what is often erroneously designated as a bilious condition, and in these circumstances a free purge will often relieve the distressing symptoms. The great point in counteracting this state of the health is to endeavour to live regularly, both in the matter of diet and taking of sufficient exercise. The cold morning bath will also be found of great service in bracing up the system, a healthy condition of the skin being thus ensured and a tonic influence imparted to the body generally in consequence. Debility in childhood is very frequently congenital, but it is astonishing how this congenital deficiency may be remedied by judicious measures being adopted, both in the way of nourishment and by remedies which ensure the proper assimilation of food. Muriate of calcium given after meals has proved itself a most potent remedy in promoting assimilation, and thus removing a great cause of debility in early childhood. The syrup of hypophosphites are also most useful medicines in this condition. When debility depends upon disease, then, of course, the cause must be attacked and removed before it is possible to get quit of this symptom ; for of course, in these circumstances, it can only be classed as a symptom and not as a disorder *per se*. Debility naturally is a conse-

quence of old age and general decay of the vital powers, yet even in such circumstances, by assisting digestion and attending carefully to the bowels, together with endeavouring to sustain the external heat by judicious clothing, a great deal may be accomplished in alleviating the symptom and in prolonging life.

*Decay*, or a gradual giving way of the vital powers in old age, may be almost taken as a continuation of the preceding article. It is remarkable, however, to note how careful living and strict attention to hygienic laws affect the period at which decay may be said really to commence. This, however, as we all know, can never be deferred indefinitely, as changes take place in all the organs which eventually culminate in their complete inability to sustain the vital powers. This is most distinctly observable in individuals whose life gradually flickers out and who die with no disease apparent as the immediate cause of death.

*Decline* is synonymous with consumption or tuberculosis. Decline of the bowels is that diseased condition of the peritoneal cavity which is due to the deposit of tubercle. See *Consumption*.

*Deformity* is any and every deviation from the normal proportions and symmetry of the human frame, but it is most usually applied to those irregularities of form which consist in local deviations from the correct anatomical condition of the parts. These may be either congenital or acquired after birth. The causes of congenital deformities are not properly understood, although they are frequently attributed to mental impressions made upon the mother during gestation. In those which are acquired, irritation of the nervous system produced by some cause, such as worms, teething, constipation, etc., is the usual factor at work. Organic change in some portion of the nervous system, such as the brain or spinal cord producing paralysis, not unfrequently results in malformation of the parts affected. Certain occupations also, such as leaning

over a desk, carrying heavy loads, etc., may produce curvature of the spine, but probably the most frequent cause of malformations affecting the bones of the body and resulting in deformity is malnutrition of the parts, which produces the deformities affecting the spine and the bones of the lower limbs. Deformity is frequently due to tubercular affections of the joints, in which case the limb is shortened. Shortening of the limb also arises from fractures which have been improperly set. Probably the most frequent form of distortion is club-foot, which is due to a spasmotic condition of one or other of the muscles controlling the movements of the foot. This can, as a rule, be easily remedied by a simple surgical operation ; indeed, most of the deformities which we meet with are amenable to surgical and medical treatment. Wry-neck is also due to a spasmotic condition of the sterno-mastoid muscle. Severe scalds or burns, where the skin has been completely destroyed and a cicatrix has been established in its place, are naturally a cause of distortion, in consequence of the tendency of the cicatrix to contract and draw the parts in its neighbourhood out of their normal position. For special information on the various forms of deformity refer to articles upon *Wry-neck*, *Rickets*, *Spine*, and *Club-foot*.

*Delirium* is a temporary aberration or disturbance of the mental functions, occurring during illness either of a febrile or exhausting nature, or due to prolonged indulgence in alcoholic drinks. It is generally a symptom of considerable importance, but not always so, slight causes frequently in children, and even in adults, producing delirium. When delirium arises from an exhausting disease it is always of serious import, and may gradually merge into a low muttering form and terminate in coma. Again, delirium may be due to some disorder of the brain, either of an inflammatory nature or resulting from injury. Of course, in the treatment of delirium the first thing to ascertain is its cause—*e.g.*, if a person of full habit becomes delirious,

and along with the delirium there is a high temperature, a quick pulse, bloodshot eyes, and a flushed face, the proper course to adopt would be to abstract blood either from the arm, or by leeching the temples, or cupping the nape of the neck. A free purgative should also be administered, while to the calves of the leg and abdomen mustard poultices should be applied, and the head shaved and kept cool by the application of ice. If the delirium is accompanied by violent contortions or movements of the limbs, these should be restrained as much as possible. Sleep should also be promoted by the administration of medicines which are known to have a soothing effect upon the nervous system without producing any degree of narcosis. The vital energy should also be maintained by the judicious administration of nourishment, either by the mouth or rectum. In every case of delirium patients should be strictly watched, so that they may not do themselves any injury, as frequently, if constant surveillance has not been observed, the patient has been known to rush out of the house by any mode of egress he could find, and not unfrequently this has been through the window; it therefore becomes essential that unceasing care be exercised till intelligence returns. Delirium is so frequently combined with violent muscular exertion that the disease is aggravated and the chances of recovery very much interfered with in consequence of the exhaustion which naturally arises from such an amount of fatigue that thereby is induced. It would therefore be madness to abstract blood, yet it is essential that the bowels be kept moderately open, the extremities kept warm, the head cool, and in every instance the patient should be placed in an airy and well-ventilated room. Amongst the best medicines to induce sleep when delirium is present are—bromide of potassium in 30-grain doses administered every two or three hours, the hydrate of chloral in 15 to 20-grain doses repeated at intervals of two hours till sleep is induced, trional in

from 15 to 20-grain doses at intervals of four hours, or chloralamid in 20-grain doses repeated at intervals of two or three hours. There is hardly any disease of an acute nature which may not develop delirium in its course, and in all these instances it is usually dependent on a vitiated condition of the blood due to the poison upon the presence of which the disease is dependent. Delirium must always be differentiated from insanity, its treatment being so entirely opposite.

*Delirium Tremens* is essentially an exhausted and poisoned condition of the nervous system due to the indulgence for a prolonged period in alcoholic drink. The disorder of the mind, which is the chief symptom of this disease, is of a peculiar kind. It is always accompanied by sleeplessness, restlessness, and peculiar hallucinations, which latter seem to excite terror in its most acute form. The entire bodily frame is in a state of tremor, even the closed eyelids and the tongue are tremulous, the hand is unable to perform any action with exactitude in consequence of the incessant shaking of the limb. Great prostration speedily follows an attack, yet the patient is unable to sleep, the nervous excitement becoming so intense that he cannot be kept in bed, and eventually the strength becomes so exhausted that stupor supervenes, followed by death. Delirium tremens is frequently the sequel of an injury of one kind or another which overtakes a man who has been a habitual drunkard. The great point in the treatment of this disorder is to endeavour to restore the animal strength by means of the frequent administration of nourishing diet of an easily digestible nature, such as egg-flips, beef peptinoids, and strong soups, while at the same time sleep may be induced by the administration of trional, chloralamid, or any of the other soporifics which are mentioned in the article upon Delirium. It is needless to say that alcoholic stimulants should be entirely suspended and that the patient be constantly watched so as to

prevent him doing himself an injury or escaping from the house.

*Demulcents* are those remedies employed in medicine which have a soothing influence upon the mucous membranes and skin when these are in a state of irritation. These substances may be applied either locally or by the stomach and bowels. When the demulcent is intended to act upon the urinary organs or air passages, they are administered by the mouth, and it is always desirable that they should be given in considerable quantities. Demulcents are exceedingly useful when the urine is irritating, in consequence of their power of diluting the fluid. In the same way they act on the mucous membrane of the bronchial tubes by promoting a free flow of mucus. Amongst the demulcents may be mentioned almond emulsion, gruels made of arrowroot, sago, tapioca, and oatmeal, egg-flip, barley water, rice water, gum arabic in solution, linseed tea, linseed oil, spermaceti, lard, wax, etc.

*Dengue* is an epidemic fever which prevails in the East and West Indies and also in North America. It is accompanied by great pain and swelling of the joints, resembling very much the symptoms which occur in acute rheumatism. It presents many of the characteristics of eruptive fever, and is liable to frequent recurrence or relapses. There is a strong evidence to show that influenza, especially when it occurs in those severe epidemics which have overwhelmed the community during the past year or two, is closely allied to dengue.

*Dentifrice* is composed of an alkaline substance such as chalk or magnesia, as a base, and some colouring and odoriferous matter to make its use in cleansing the teeth pleasant. The most popular dentifrice is precipitated chalk mixed with a small portion of camphor, which not only acts as an antiseptic, but makes the dentifrice more pleasant to use.

*Dentition* is the period during which the teeth force

their way through the gums in infancy. It is always a more or less anxious time, as disturbances of the nervous system and the digestive organs are liable to take place during its progress. It is always desirable to keep the child as much in the fresh air as possible, and to observe that the bowels are kept rather loose than otherwise. If dentition is creating any disturbance, as a rule the matter may be safely left to nature.

*Deodorants* are those substances, whether of vegetable or animal origin, which by their antiseptic properties destroy foetid and offensive odours. The most popular of these are—charcoal, chlorine, carbolic acid, creasote, and the odoriferous essences, the principal of these being eucalyptus. The most popular deodorants in use are—aromatic vinegar, Condy's fluid, chlorinated lime, chlorinated soda, and carbolic acid.

*Depilatory* is an application which is employed locally for the removal of hairs from the skin. Preparations containing quicklime which has been allowed to crumble into an impalpable powder by exposure to the atmosphere, combined with a small portion of arsenic, have frequently been used for this purpose. It, however, requires to be employed at frequent intervals before complete destruction of the hair follicles takes place. When the hair is diseased at its roots, it is frequently necessary to remove each individual hair, so that the application which it is necessary to employ for the destruction of the disease germs may come in direct contact with them in the little follicles from which the hairs grow. For this purpose small tweezers are employed, by which the hairs are forcibly extracted.

*Derbyshire Neck*, or Goitre, is a disease of the thyroid gland, producing an enlarged condition of this organ, which not unfrequently develops into a large cystic tumour. This disease is peculiar to certain localities where an undue proportion of lime is contained in the drinking water. It

is benefited by the internal administration of iodine and iron.

*Desquamation* takes place after diseases which are accompanied by acute inflammation of the skin, such as erysipelas, scarlet fever, measles, and erythema. Desquamation is the separation in flakes of the epidermis, or outer skin. Strictly speaking, this process is constantly going on over the whole surface of the body, the epithelial cells which are thrown off being rapidly replaced by others. Desquamation also occurs after the application of an irritant, such as mustard plasters, blisters, croton oil, acetic acid, etc. See articles on these several diseases.

*Diabetes* is that wasting disease in which there is an unusually large secretion of urine in which is suspended a considerable amount of saccharine matter. This disease should only be treated under medical supervision. Many remedies have been proposed for its relief, but the sheet anchor of the patient consists in strict attention to diet and the avoidance of everything containing sugar or farinaceous matter. Skim milk has been advocated by some as an article of diet in the treatment of this disease, but the great point consists in attention to the strict avoidance of all articles containing starchy or sugary matter. Amongst the medicines which have been recommended in this disease are—codeia, morphia, and salicylate of soda. In this affection, although the quantity of the urine is enormously increased, its specific gravity is always unduly high in consequence of the sugar contained in it. It must be remembered, however, that a copious flow of urine does not always indicate diabetes, as frequently in certain nervous disorders the secreting power of the kidneys is very much increased. This is specially the case in hysterical affections.

*Diagnosis* is the word which is applied to the art of discovering the nature of any disease and distinguishing it from others. It is a term which is largely employed in

medical literature. To diagnose a case is, of course, the first step taken by every medical man when called into the sick room. If he is able to come to a correct conclusion as to the nature of the disease, the greatest difficulty has been overcome and the treatment is thereby rendered comparatively easy. If, on the other hand, his diagnosis is incorrect, then the greatest mischief to the patient may follow. Hence the necessity in many cases of calling in other help to clear up a point which may be hazy. A great many instruments have been called into requisition for the purpose of assisting in diagnosis, the most important of which perhaps are—the stethoscope, the thermometer, and the microscope, in medicine; in surgery, the probe, sound and exploring needle; in diseases of the throat and air passages, the laryngoscope and the rhinoscope; for the ear, the auriscope; for the female genital organs, the speculum and uterine sound; for disease of the kidneys, in addition to the microscope and urinometer, chemical tests are employed in examining the constituents of the urine.

*Diaphoretics* are those medicines which have the effect of promoting a free action of the sweat glands of the skin. These are employed in cases of fever, where it is always desirable to bring the skin into a state of action. This can be accomplished by various means, such as baths of various kinds—viz., the hot bath, vapour bath, Turkish bath, and the hydropathic pack. Various medicines also have this property, the most important of which is phenacetin, which not only reduces the temperature of the body but promotes copious perspiration. Amongst the older diaphoretics may be included acetate of ammonia, commonly called when in solution the spirits of mindererus, ipecacuanha, antimony, opium, etc. The great point, however, in treating fevers is to endeavour to get the temperature reduced as rapidly as possible, and in certain cases it is advisable to apply a cold spray or sponge bath

to the whole surface of the body, and not unfrequently life has been saved when the temperature has been very high by the application of bags filled with ice over the region of the heart and abdomen. As a medicine, however, nothing seems to equal phenacetin in attaining this object, though several preparations of like nature, such as antipyrine and antifebrine, etc., have been largely used, but their employment is always more or less attended with danger, whereas phenacetin is uniformly safe.

*Diarrhœa* consists, as its name implies, of a copious discharge from the bowels of liquid or semi-liquid matter, this generally being of a most offensive odour. It is frequently accompanied by severe griping pain, which invariably indicates that the diarrhœa is due to the presence of some irritating matter within the intestinal canal. The proper method of treatment to be adopted when these painful symptoms accompany the disorder is, to commence by clearing out the alimentary canal by means of castor oil and laudanum, or a mixture of rhubarb, soda, and ginger—the first, however, as a rule, is to be preferred. A form of diarrhœa, or pseudo-diarrhœa, frequently occurs in the lower portion of the colon, and this is due to the presence of hardened fæces within the canal which set up the irritation, exciting the bowel to undue action in its efforts to get quit of the matter. This diarrhœa is accompanied by very great depression of spirits and irritability of temper, and may be recognised by the fact that when the patient goes to stool he invariably has the feeling as if he could not get himself properly relieved, and feels inclined to sit and strain long after the bowel has apparently been emptied. It is also characterised by the fact that when the desire to go to stool comes on, the call is imperative and will admit of no delay. It has also the additional characteristic that diarrhœa frequently supervenes immediately on rising to the erect position or after partaking of a meal. It may continue for a day or two,

and then there is a period of constipation, when the bowels do not act at all ; this, however, again gives place to looseness of the bowel, and it is difficult to convince one ignorant of the cause of this form of diarrhoea that it is in reality due to constipation. The treatment consists in the employment of enemata, so as to wash out the bowel and clear it of its irritating contents, and this should be repeated at regular intervals of at least forty-eight hours. Diarrhoea, again, is an urgent symptom in certain diseases, such as typhoid fever and cholera. It may also arise from a catarrhal state of the mucous membrane of the intestinal canal ; in such diseases, however, it is essential that medical aid be called in to indicate the proper line of treatment. The most popular remedies for diarrhoea after the bowel has been cleared of any irritating matter are—opium, chalk mixture, bismuth, and gum arabic, combined with a light diet.

*Diet* is a subject which is of the greatest importance for consideration in this age of luxuries. Nine cases out of ten of indigestion are due to over-indulgence in eating and drinking. Again, attention to diet is most important when there is a tendency to plethora or obesity, and it is equally important when there is a tendency to constipation, and certainly no case of dyspepsia can be treated without the strictest attention being paid to the food, both as to the cooking and its nature. If there is undue distention after meals, such articles as broth, soups, stewed and boiled meats, pastry, badly cooked potatoes, and uncooked vegetables should be carefully avoided, and liquids must not be partaken of in any quantity during a meal, but should only be drunk after the meal is finished. Confections of all kinds are also pernicious where there is dyspepsia, and long infused tea is also to be avoided. It is hardly necessary to add that where indigestion is present it is essential that the food be thoroughly masticated and mixed with the salivary secretion before being swallowed.

*Digestion* is the process commencing in the mouth and terminating in the duodenum by which food is rendered fit for nourishing the body. The first stage in the process is mastication, which should in every instance be thoroughly accomplished, as by this means its fine division is secured, which renders it capable of coming in contact thoroughly with the juices which are necessary to act upon it in the process of digestion. By mastication a thorough mixing of the food with the salivary secretion is obtained. This secretion is most important where farinaceous articles are concerned, therefore bread, potatoes, and food containing starchy matter should come thoroughly in contact with the saliva before being swallowed. When the food is swallowed it comes in contact with the gastric juice, and by a peculiar worm-like movement of the stomach, called the peristaltic action, it is kept constantly moving to and fro until all the albuminous portions have been digested and the contents of the stomach converted into chyme. The chyme then passes into the duodenum, where it comes into contact with the bile and pancreatic juices, the fatty matters there becoming emulsionised. The digested food is thus transformed into chyle, after which it is taken up by the lacteal vessels and conveyed to the blood as nourishment. The unassimilated portion of the ingesta then passes into the large intestine or colon, where it becomes acid and mixed with the feculent excretion from the glands of that bowel, and is thereafter discharged as excrement. Digestion will thus be seen to be very much facilitated by thorough mastication, while the organs of digestion are kept in healthy vigour by the nervous apparatus controlling their secretions being supplied by a pure blood; hence the necessity of a daily evacuation of the bowels. If this is not regularly accomplished absorption of fetid liquid takes place, and the blood thereby becomes contaminated. This vitiated blood circulates through the nervous system, and naturally

has a prejudicial effect upon its activity ; thus not only are general symptoms of nervous depression persistent if the bowels are not acted upon daily, but likewise the nerves stimulating the gastric and other glands are deprived of their normal power, and hence the secretions become reduced in quantity as well as in quality. The salivary glands are stimulated and become active when the process of mastication is going on, the saliva being poured out in sufficient quantities to completely saturate the food which is undergoing mastication. It is therefore quite unnecessary to imbibe any fluids during eating, as this only dilutes the natural gastric juices, and renders them less efficient in consequence. The salivary secretion, as before stated, acts in a chemical manner upon the starchy components of the food, converting them into sugar, by which transition they become fitted for absorption. Starch, on the other hand, cannot pass into the blood as nourishment. The gastric juice, as already noted, acts principally upon the albuminous portions of the food ; its action is highly acid, and, in consequence of this, any starchy matter that has escaped from the mouth without being acted upon by the salivary secretion remains unaltered until it comes in contact with the pancreatic and biliary secretions in the duodenum. These juices neutralise the acidity of the chyme, and, by emulsionising the fats and transforming the remaining starchy constituents into sugar, transform the chyme into chyle. This substance, as before stated, is absorbed by the lacteal vessels, which ramify over the small intestines and have communication with the intestinal canal by small glandular elevations called villi. These vessels take up the nutritious portions of the chyle and convey them through the mesenteric glands, thus filtering it from all matter which is not capable of being vitalised. After this purification it acquires the power of coagulating, and assumes a slightly reddish tinge when exposed to atmospheric air. The

chyle from the smaller vessels is emptied into the larger trunks, which unite and form one main channel. This conveys the blood to the vein formed by the junction of the large veins of the head and neck with those of the arm. This large lacteal vessel is called the thoracic duct. At the junction of the thoracic duct with the venous circulation the process of digestion and assimilation terminates. For *Indigestion* see article.

*Digitalis*, or Fox-glove, is a well-known plant, and one which yields the most graceful pendulous flowers that adorn the hedgerows and wilds of our native land. It is a most powerful medicine, which, when in skilled hands, is one of the most important remedies we possess. It should never be employed as a domestic remedy, but only when prescribed by a skilled physician. It acts as a powerful tonic on the heart, but, like all other tonics, when given in excessive doses is liable to produce very serious symptoms. The dose of the tincture of digitalis is from ten to twenty drops every four or five hours, whereas that of the infusion (which probably is the most reliable preparation) is a dessert-spoonful every four hours. By its effect upon the heart's action it stimulates the circulation throughout the whole body, and has a special effect on the kidneys, enabling them to secrete in much larger quantities than they would otherwise do if the heart's action was unaided by a valuable drug like digitalis.

*Diluents* are those agents which are employed largely in medicine to dilute the fluids of the animal body. Diluents are always called for in excessive thirst, or when the secretions are scanty or irritating in their properties. When thirst exists it is not due to the simple fact that the mucous membrane of the mouth and throat is dry, but that the blood contains too little fluid in consequence of excessive perspiration or excretion by the kidneys. When the kidneys are secreting urine highly acid, or charged by a superabundance of insoluble matter, then the adminis-

tration of large quantities of fluid by diluting the urine acts most beneficially. People exposed to excessive heat or exertion naturally lose proportionally large amounts of fluid by the skin ; diluents, therefore, are necessary to keep up the normal condition of the blood. Water may be used as a diluent, but those diluents most commonly employed are weak infusions, such as toast water, barley water, rice water, and thin gruels, either made of oatmeal, arrowroot, sago, or tapioca. In certain diseases, such as cholera, diarrhoea, diabetes, etc., there is a great craving for fluid, and in each instance the kind of diluent to be employed is indicated by the nature of the malady.

*Dinner* should in every instance be the principal meal of the day, but in no instance should it be indulged in to such an extent as to overload the stomach, and thus disable it by persistently overtaxing its energies. Dinner, if possible, should take place at the termination of the day's work, when care and anxiety are for the time being cast aside, and the whole functions of the nervous system devoted to the important duty of secreting the necessary juices for the thorough digestion of the meal. If dinner is made up of more than three courses—viz., soups, joints, pudding, or sweets—it is a mistake to indulge in any large quantity of any one course. As a rule it will be found that a large amount of fluid, either in the form of soups or sauces, is injurious to the digestion, whilst meat that is boiled or stewed, in consequence of this method of cooking dissolving out the natural digestive salts, is rendered more difficult of digestion ; hence it is advisable that butcher meat should be roasted or grilled, and at all times to be rather underdone than overdone in the cooking. Vegetables should invariably enter into the composition of the meal, as these are essential to maintaining the healthy condition of the blood. It will always be found that if fluids are taken after dinner digestion will be more active than if they are partaken of during the meal.

*Diphtheria* is essentially a disease due to bad sanitation, and is therefore preventible in every instance. The *casus morbi* is a fungoid growth, whose spores are deposited upon the tonsils or fauces. These spores do not reach their seat of attack by the atmosphere, but must be conveyed to the spot either by the saliva, food, or drinking water. This disease never occurs in a person who is of robust health, but is generally associated with a vitiated atmosphere confined within the dwelling, and which is, as a rule, due to the escape of sewage gas into the apartment or apartments inhabited by the individual. The inhalation of such gases for a prolonged period has the natural effect of debilitating the human frame and rendering it susceptible to disease, while these gases, when absorbed into water, convey to that fluid the power of sustaining and nourishing the disease-producing germs. Thus, when this contaminated fluid is partaken of, the germs are conveyed along with it into the system of their victim, and produce the dire consequences of this dreadful disorder. The first indications of diphtheria are lethargy combined with a slow and weak pulse, which is followed in a day or two by sore throat and feverish symptoms. When the throat is examined a small ulcer of a yellowish-white colour may be detected upon some part of it; this rapidly spreads in area until not only the throat but the pharynx and larynx may likewise be covered with the deposit. When the disease is confined to the throat it is readily destroyed by the application of strong antiseptics, such as carbolic acid, boracic acid, per-chloride of iron, sulphurous acid, chloral, and other germicides. While the throat is being attended to, however, it is essential that the general health be also carefully looked after, and copious supplies of nourishment should be administered at frequent intervals; stimulants, too, should be freely administered, so as to enable the system to resist and overcome the disease. When diphtheria has located itself on the throat, it is at first only a

local affection, but in process of time the filaments of the fungus which constitute the disease penetrate the mucous surface and insinuate themselves into the blood-vessels, and it is then that the dreadful characteristics of the disease so rapidly develop. When once the disease germs have been permitted to enter the blood, the most dangerous stage of the disease may be said to have been arrived at. Our object then should always be to prevent this catastrophe by energetic, persistent, and repeated attacks being made upon the disease before it has become constitutional; in other words, we should endeavour in every instance to attack the disease and destroy it in its initial stage, and prevent its invading the circulation. This can only be accomplished by the energetic application of antiseptics to the primary ulcers. As a rule, if these injunctions are strictly followed out, diphtheria will be found most amenable to treatment, whereas, if time is allowed to elapse without the local remedies being actively employed, the disease becomes one of the most malignant and fatal that flesh is heir to. The following application will be found to be most efficacious in destroying the micro-organism when it has deposited itself on the throat, viz.:—Equal portions of the strong liquid of the perchloride of iron, sulphurous acid, glycerine of carbolic acid, and pure glycerine; this should be applied to the ulcers every two hours by means of a camel hair pencil, while a mixture containing five drachms of sulphurous acid, five drachms of the tincture of the muriate of iron, two and a half drachms of chlorate of potash, two and a half drachms of salicine, and water to make eight ounces, should be given in table-spoonful doses every two hours, so that the application and the medicine are given at alternate hours, thus bringing the remedy in contact with the diseased surface every hour. Of course, simultaneously, the patient should be well nourished by frequently partaking of strong soups, egg-flip, and port wine. Diphtheria,

however, is a disease involving so much danger that it is absolutely necessary that every individual case be placed in the hands of a competent medical man. While diphtheria is most commonly a throat disease in its first stages, it may be conveyed to other mucous surfaces, such as the eye, nose, vagina, and bowel, in which instances, of course, suitable local measures will require to be employed, all of which must necessarily be antiseptic. A useful adjunct to local and general treatment will be found in keeping the air of the apartment in which the patient is confined saturated with the fumes of eucalyptus, which may be conveyed to the patient by means of steam impregnated with the oil issuing from a bronchitis kettle. In recent years great advances have been made both in the treatment of this and other virulent forms of disease, by the subcutaneous injection of the poison in an attenuated form, with the gratifying result that the death-rate has been enormously reduced. Numerous instances are on record where patients who, before the introduction of this method of treatment, would have been considered beyond all hope of recovery, have been saved, and the rapidity with which the recovery takes place is one of the most gratifying features of the treatment. This serum can now be procured ready prepared at any respectable druggist's, so that no time need be lost in having recourse to this method of treatment, even in the most remote districts.

*Dipsomania* is evidently a form of insanity or monomania, in which the patient has an inveterate craving for drink, occurring at intervals of long or short duration. The individual seems quite unable to control this unnatural desire, and if not constrained by physical force he, at any cost, will procure drink, and indulge in it until his morbid craving is satisfied. The term dipsomania is necessary, because it is well known that numbers of people are alive whose desire for intoxicants is so strong, and their ability

to resist them so feeble, that they are obliged to give way to it; reason has no effect upon them, and thus they are classed amongst maniacs. Several remedies have been advocated for the treatment of this painful disorder, but it would appear that few, if any, have proved of much avail. If the patient is lacking in that moral courage which will enable him to abstain entirely from alcoholic stimulants in any form whatever, medicines are of very little service. Doubtless, however, some few of the many remedies suggested have proved helpful in the treatment of this mental affection. The extract of red chinchona bark at one time had some little reputation in the treatment of dipsomania. Latterly, however, it has been suggested that a solution of the per-chloride of gold should be injected under the skin, and many practitioners have spoken highly of this therapeutic agent. Isolation in a retreat for three or six months has in many instances proved remarkably beneficial, as it is a well-known fact that the longer the patient denies himself the use of stimulants, the less difficulty does he encounter in his attempts to resist them. It goes without saying, that the more a man indulges, the less able will he be to withstand temptation, because a long continuance in the excessive use of stimulants without doubt produces degeneration of the nervous tissue, and, therefore, enfeeblement of the moral sense results. Dipsomania, although probably more frequently met with in the lower and middle classes, is also prevalent to a considerable extent amongst those occupying a high social position, and possessing large fortunes and estates. Refer to *Alcohol, Delirium Tremens, Drunkenness, Stimulants*.

Disease is any departure from the natural standard of health. It may be local or general, according as it affects a certain portion of the system, or the body at large. The nomenclature of disease is of wide range, and its diagnosis at times is attended with considerable difficulty. Health, on the other hand, consists in the proper performance of

the function of every tissue and organ of the body, without being accompanied by inconvenience or pain. There are few, indeed, who can boast of this exceptional condition. If disease is present its symptoms will manifest themselves, not only in the part specially affected, but throughout the whole system. The pulse, tongue, and nervous system will all show evidence that disease is present; and, as a rule, sleep will be very much interfered with. The most common premonitory symptom of disease, wherever it may attack the individual, is a feeling of coldness and shivering over the body, accompanied by languor and prostration, after which sensations the pulse generally rises and the temperature of the body increases. These general symptoms should invariably lead one to suspect either some local mischief or an attack of fever of one kind or another. If the eyes are suffused, the cheeks flushed, and the tongue thickly coated, the skin dry and burning, and the temperature of the body above the normal, we may safely conclude that some febrile disturbance is at work. If this is accompanied by rapid breathing and cough with expectoration of a viscid nature, which may sometimes be tinged with a rusty hue, then special attention should be directed to the condition of the lungs. If the fever symptoms come on during the night, especially in the case of children, and these are accompanied by grinding of the teeth, and waking in a fright almost amounting to delirium, then the probability is that the bowels are overloaded, and an enema will give prompt relief. If the fever is accompanied by pain in the joints and a brick-dust deposit in the urine, then acute rheumatism or rheumatic fever may be suspected. If the premonitory symptoms are accompanied by vomiting and sore throat, then we may suspect scarlet fever. If running of the eyes and nose, accompanied by a persistent cough, are the prevailing symptoms, we should in this case suspect that measles is impending. If the high temperature is accompanied by overpowering headache, together with

pains in the muscles of the body and limbs, we may in these circumstances reasonably suspect that influenza is the exciting cause of the symptoms. If, on the other hand, there is a slow pulse, accompanied by inveterate vomiting, our inquiries ought to be directed to the condition of the brain and its membranes. It must be remembered, however, that vomiting of a persistent character frequently accompanies brain affections and disease of the kidneys. This can be verified, however, by examining the urine. When it becomes thick on boiling, we may conclude that Bright's disease or inflammation of the kidneys is the cause at work.

*Disinfectants*, or Antiseptics, are preparations which have the effect of destroying the germs of disease. There are several natural disinfectants, such as pure air, sunshine, and good ventilation. Disinfectants must always be distinguished from aseptics—*e.g.*, water as a rule contains germs which may be morbid in their action or not, but if this water is boiled the vitality of the germs is thereby destroyed, and thus the water is rendered aseptic—that is to say, it is deprived of the power of producing poisonous effects upon the individual drinking it. Disinfectant, therefore, in reality means the power of destroying the potency of certain low forms of microscopic life. Among the most powerful antiseptics are—bi-chloride of mercury, carbolic acid, creasote, thymol, aristol, chlorine, acetic acid, sulphurous acid, chloral, chloroform, alcohol, and many others. The direct effect of these agents is to destroy the vitality of the germs which give rise to disease. If we wish to isolate a patient who is suffering from a contagious disorder, the ordinary plan would be to hang a sheet over the door of the apartment in which the patient is confined, and keep this sheet saturated with a solution of carbolic acid. By this means all air passing from that room will naturally be deprived of its disease-producing constituents, in consequence of the destructive effect of the carbolic acid

upon the germs. Disinfectants are also employed as local applications in certain diseases, such as aphtha, diphtheria, furunculus or boils, small-pox, and all the exanthemata during convalescence. In the latter circumstances disinfectants are applied to the skin so as to disinfect the scales which are thrown off by the cuticle. In certain diseases of the bladder also, disinfectants, of which the most popular is boracic acid, are employed internally, and also by injection into the bladder, with a view of destroying the tendency to the formation of pus which frequently exists in disease of this organ. They are also largely employed in the treatment of women who have recently given birth to children. In this instance they are used in solution, and injected into the vagina night and morning, with a view of keeping down putrefaction of the discharges which naturally are thrown off after child-birth. So many diseases depend upon the effects of micro-organisms that these are invariably treated by the application of disinfectant fluids—*e.g.*, ophthalmia is most successfully combated by the introduction of antiseptic fluids within the eye, the most potent of which perhaps is a dilute solution of the bi-chloride of mercury. Again, offensive odours arising from putrescence of any kind may be destroyed by the free use of certain disinfectants, which in this instance are termed deodorants, simply from the power which these agents have of destroying the organisms which give rise to the foetid stench which is generated by decomposing substances.

*Dislocation* is purely a surgical term, which means the displacement of bones, or portions of bones, when they ought to be connected. Violence, as a rule, is the factor producing this deformity. When it takes place it is often very difficult to reduce, in consequence of the unnaturally strong action of the muscles surrounding the part and attached to the dislocated bone. It is, therefore, frequently necessary to put the patient under chloroform, with a view of overcoming the muscular traction upon the

parts, so that the muscles being rendered inactive the dislocated bone may be replaced in its natural position. Chloroform, therefore, is a most useful agent in enabling the surgeon to reduce dislocations. It is quite needless in this book to go into details of the various dislocations that may arise, as no one will make the attempt, or risk the result, if he is not thoroughly competent from his anatomical knowledge to ascertain when he has in reality brought the parts into their proper position. Surgical aid should in every instance of dislocation be called in, so that the dislocated bone may be accurately replaced. After reducing the dislocation the parts should have complete rest, and in no instance should they be brought into active use until sufficient time has elapsed for the tissues to become thoroughly consolidated.

*Disordered Function* is a term frequently employed in medical literature to indicate a departure from the usual healthy conditions of any organ—*e.g.*, the heart may be disordered in its action by various circumstances, such as distention of the stomach, over-indulgence in stimulants or tobacco. The kidneys may be disordered by the effects of cold or over-indulgence in certain articles of diet. The functions of the lung may also be disordered by indigestion, which causes an undue distention of the abdominal cavity and interferes with the free action of the diaphragm. The functions of the brain may be disordered by over-indulgence in alcohol, or by over-excitement and prostration from any cause whatever. The functions of the liver and other organs may also be disordered from similar causes. It is necessary that hygienic laws should be carefully observed and all mental strain avoided.

*Diuretics* are those medicines which act upon the secreting power of the kidneys, and thereby increase the flow of urine. The most popular diuretics of the present day are—diuretin, digitalis, salts of potash, malt liquors,

spirituous liquors, broom, dandelion, juniper, squills, and the free administration of liquids, such as barley water, rice water, gruel, linseed tea, skim milk, and plain water. These agents are freely employed when it is desirable to dilute the urine, either on account of its irritating properties or because it is necessary to flush the kidneys.

*Douche* is a column of water so arranged that it will play upon a certain portion of the body. It is a most useful remedy in certain conditions of the joints, where thickening has taken place from inflammatory exudation. It is also most efficacious in many rheumatic affections, such as lumbago, stiffness of the joints, and in affections of the womb. Where there is chronic inflammatory mischief it proves of great service when combined with friction in the form of massage.

*Dover's Powder* is a compound of one grain of ipecacuanha, one grain of opium, and eight grains of sulphate of potash mixed together in a mortar. It is largely used in the treatment of feverish complaints where it is desirable to produce free perspiration. In common catarrh of the head, or ordinary cold, it frequently succeeds in cutting short the disease, and in inflammatory affections of the lungs it is a most popular remedy when combined with calomel; in such cases five grains of Dover's powder combined with half a grain of calomel, administered every four hours, will frequently have a most beneficial effect.

*Drainage* as applied in medicine has special reference to the removal of fluids which are secreted in cavities, such as abscesses, and within wounds formed by operations. If free drainage is not induced the fluids which are secreted, either in the cavity of an abscess which has been opened or in that which has been produced by the removal of unhealthy tissue, may decompose and produce constitutional effects which would otherwise be obviated. Drainage, of course, is a term more largely employed with reference to the hygienic conditions

essential to the preservation of health, and in this instance has special reference to the removal of superabundant fluids from the surface of the soil, and also to the removal of soil from dwelling-houses. In the drainage of houses it is essential that all fluids which do not contain decomposing matter should be emptied into the sewage pipes without being connected with them—*e.g.*, all liquids emanating from baths, wash-hand basins, and sinks should have no direct communication with the sewer pipes. On the other hand, it is necessary that the drainage of water-closets should be conducted into the main sewer, but previous to their junction with this channel they should be so ventilated that any gases emanating from the main sewage system will be permitted to escape into the open atmosphere, and not by virtue of a continuity of pipe be permitted to enter the dwelling-house. The complete severance of the drainage system of a house from that of the sewer is essential to the health of the individuals inhabiting the dwelling, and this, of course, can only be brought about by the introduction of traps which are thoroughly open to the outside air. The certainty of removing such a contingency as the admission of sewer gas into a house is so easily accomplished that it would simply amount to criminality in any builder to permit such a catastrophe to occur. Of course it goes without saying, that the sewage pipes within the dwelling should be thoroughly impervious to the escape of gas, and to provide against the risk of this occurring the drains should be periodically tested, so that it may be ascertained, at least once a year, whether they are in perfect working order. If this rule be adopted serious consequences arising from sewage contamination may always be avoided, and thereby not only illness prevented, but valuable lives saved.

*Drastic* is a term applied to severe measures, and also to purgatives which act in an energetic manner, such as croton oil, scammony, jalap, etc.

*Dreaming* has been described as a semi-conscious condition of certain of the mental faculties which exists during sleep, whilst the other faculties are unconscious, hence the peculiar and extraordinary pictures which cross the vision during disturbed sleep. From my point of view, dreams arise from the fact that the two hemispheres of the brain are not acting in harmony as they do when one is awake. It should be borne in mind that the brain is composed of two distinct organs, just as the two eyes or ears are distinct, and in like manner as an individual can see with one eye or hear with one ear, he is able to think with one hemisphere of the brain; and as in seeing or in hearing with both organs simultaneously the vision and the hearing are brought to a focus within the brain, one picture, so to speak, is only produced. In the same way during wakefulness, the two hemispheres of the brain act simultaneously and produce but one impression, whereas during semi-consciousness—which generally exists when dreams predominate—each hemisphere of the brain is acting independently of the other, and thus the most curious fantasies present themselves, as the one necessarily conflicts with the other. This, of course, is a very dim outline of the psychological condition which obtains in dreamland, but it is enough to convey the theory of the writer on this hitherto obscure subject. The condition of the brain during the evolution of dreams would appear to border closely upon the domains of insanity. In fact, dreaming, in the writer's opinion, resembles a transient insanity which occupies the period of sleep, whereas insanity in its own sphere dominates the period of wakefulness. Sleep to be thoroughly refreshing should never be disturbed by dreams, so that one whose sleep is invaded by these visions of the night invariably complains of want of refreshment in the morning, and as a rule this kind of sleep is due to some physical cause, such as indigestion and constipation. Nightmare is an aggravated form of dreaming, and is

invariably associated with some disorder of the alimentary canal. In these circumstances the dreams are so vivid and frequently so appalling as to make the person for the time being the subject of extreme terror, which frequently finds vent in distressing cries, and in many instances may develop into a temporary delirium.

*Dressing*, as applied to surgery, means the application of certain substances, either in a simple form or combined with some medicinal substance which renders their action more efficacious—*e.g.*, dry dressings are applied to certain wounds where absorption of discharges is required. These dressings are always, or ought always, to be rendered anti-septic by previous immersion in some fluid which has a destructive effect upon micro-organisms. Until within the past few years wet dressings were largely employed in the treatment of wounds, whether these were surgical or due to injury. Now-a-days dry dressings are very much more in vogue, and these are invariably associated with anti-septic substances which prevent decomposition, while the dressings absorb the discharges. The most important point to be attended to in the dressing of wounds is to procure as rapid healing of the raw surface as possible, and this can only be induced by keeping down decomposition of the fluids which naturally exude from a wounded surface. It is therefore customary, first of all, to make the wound aseptic by the application of anti-septic fluids, such as bi-chloride of mercury, carbolic acid, iodoform, or aristol. When this has been effected the wound is dusted over with an antiseptic powder, such as boracic acid, aristol, or iodoform. The most efficacious, however, is aristol, and when it is combined with cocaine, say in the proportion of 5 or 10 per cent., the pain of the wound entirely disappears in consequence of the anæsthetic effect of the cocaine upon the cut surface. When aristol is judiciously employed in the dressing of wounds we frequently find that these heal without the slightest

difficulty ; indeed, if it is properly applied, we will invariably have union taking place without any appearance of suppuration. The best dressing for wounds is what is usually called blue gauze, because of its being saturated with a solution of bi-chloride of mercury, which is probably one of the most powerful antiseptics we possess. A wound dressed with this substance and in the manner which has been indicated will frequently not require to be looked at for a week afterwards, when in all probability it will be found that complete union has taken place and that no further dressings will be required.

*Drinks* are fluids which are taken by the mouth, and they may be either devoid of, or contain nourishment, as the case may be. Water of course contains no actual nourishment, yet without the assistance of this fluid it would be impossible to sustain life. Water is more essential to the sustenance of life than stimulating fluids. Milk is a drink which not only satisfies thirst, but at the same time nourishes the body, and it is quite possible for an individual to live upon milk alone for an indefinite period. A great many fluids are taken as drinks during the course of certain diseases, such as infusion of barley, infusion of rice, infusion of toast, or other farinaceous substances. These to a certain extent have an amount of nutrition contained within them, but they are more utilised as diluents than for the actual nourishment present in them. Alcohol in its different forms also constitutes drinks, but these, of course, in consequence of their stimulating properties, should not be used indiscriminately. See *Diluents*.

*Drop Wrist*, or Wrist Drop, is a characteristic affection of lead poisoning. It is due to paralysis of the muscles which extend the hand, and in consequence of this paralysis it is impossible to expand the fingers and lift up the wrist, hence the wrist drops. The treatment consists in electricity applied to the muscles twice a day, together with judicious massage, and with a view to get rid of the cause of the

mischief sulphur may be given at regular intervals ; this combines with the poison which is the cause of the disease, and so the system gets quit of the *casus morbi*. Wrist drop is always associated with constipation, hence it is essential to attend carefully to the condition of the bowels.

*Dropsy* is the effusion of the watery constituents of the blood, and is invariably due to an imperfect circulation through the veins. When dropsy occurs in the limbs it may be detected by pressure applied to the swollen part, in which case the indentation produced by the fingers remains for a considerable time after the pressure has been removed. This is called pitting, and technically this form of dropsy is termed Anasarca. When dropsy occurs in the cavity of the abdomen it is generally due to the obstruction of the venous circulation of the liver, or to some inflammatory condition of the peritoneum which interferes with the complete circulation of the blood in this membrane, and in consequence oozing of the watery constituents of the blood into the peritoneal cavity takes place. This form of dropsy, as well as that of the limbs, is frequently coincident with heart disease and with Bright's disease of the kidneys, but in every instance it depends upon an incommoded circulation of the veins. Dropsy in the chest, or hydro-thorax, is the direct outcome of pleurisy which has not been cured in its acute stage, or it may arise from pressure upon the large veins which pass through the thorax in their progress towards the heart. When dropsy of the limbs, or anasarca, occurs, it of course is necessary in every instance to ascertain the immediate cause, and this should be treated with remedies which will tend to remove the cause of obstruction—*e.g.*, if the kidneys are at fault it will be necessary to employ diuretics with a view to increase the action of these organs, and also purgatives to relieve them as much as possible of the burden which naturally devolves upon them, while at the same time the circulation should be relieved by keeping the limbs in a horizontal

position. If abdominal dropsy, or ascites, exists, the same remedies should be employed as in the case of dropsy of the limbs, but it will often be found that the most expeditious way of removing the fluid is by tapping. The same applies to dropsy of the chest. This operation can now be performed with such safety, and with so much freedom from inconvenience, not to say pain, that it seems absurd to rely on medicinal agents when such an expeditious method of getting quit of the fluid can be adopted. Dropsy is such an important and serious ailment that it would be wrong to endeavour to treat it without the aid of medical science; therefore in every case of dropsy medical aid should be immediately called in. Amongst the most useful diuretics used in the treatment of dropsy are—digitalis, diuretin, cream of tartar, acetate of potash, infusion of broom, etc., together with saline purgatives.

*Drowning*, as everyone knows, is suffocation due to immersion in a fluid, which is generally water. The great point to observe in treating a person who has been immersed in water for a considerable period is, to endeavour to produce artificial respiration, and thus re-establish the action of the lungs, which, for the time being, has been kept in abeyance. If this can be successfully accomplished the possibility exists of animation being restored, and the individual brought back as it were from the gates of death. An important point in the restoration of persons threatened with death from drowning is to retain and supplement the temperature of the body by the application of external heat, while at the same time artificial respiration should be employed by expanding the chest and compressing it alternately. This is perhaps best accomplished by drawing the arms forcibly backwards, and then bringing them downwards and compressing them against the walls of the chest. This should be persisted in for some time and until all possibility of inducing natural breathing has ceased. If electrical appliances are at hand they should be used with

a view to stimulating nervous action. Pure oxygen is also a powerful adjunct in restoring animation, if the apparatus can be commanded at the moment by which a pure gas can be introduced into the lungs. Drowning, however, generally occurs where such apparatus are out of reach, and it is therefore necessary to depend upon more simple methods; the most important of these, as has been stated, are—retaining all the heat the body possesses, and supplementing it by means of external heat; endeavouring to expand and compress the lungs so as to produce artificial breathing, when, possibly, the blood contained in the pulmonary vessels, by coming in contact with the oxygen which is thus forcibly propelled into the lungs, may find its way to the heart and thus re-establish cardiac contractions, and in this way restore animation. No time should ever be lost in endeavouring to re-establish the action of the lungs; in short, promptitude is the great point to attend to in every case of apparent suffocation from drowning. Never take for granted that the patient is beyond hope of recovery, as many instances are on record where this conclusion has been erroneously arrived at.

*Drug* is the term which is generally applied to agents employed in medicine for the treatment of disease. It is, however, more commonly applied to those substances which were at one time much more in use than at present. The substances which are more commonly called drugs are those which have a prejudicial effect upon the system when employed too persistently, such as opium, mercury, digitalis, Indian hemp, etc.

*Drum of the Ear*, or Tympanum, is that membrane which separates the internal from the external ear, and which receives the impressions produced by the vibrations of the atmosphere. It is in contact with the minute bones or ossicles of the internal ear, which in their turn convey the impressions to the auditory nerve and in sequence to the brain.

*Duct* is the anatomical term applied to a canal which conveys fluids from a secreting body, such as the lachrymal duct, conveying the tears from the lachrymal gland to the eyeball; the salivary duct, conveying saliva from the salivary glands to the mouth; the gall duct, conveying bile from the bladder; the thoracic duct, conveying the chyle to the circulation; and so on.

*Dumbness* is the result, in almost every instance, of deafness, and is directly caused by the individual not hearing articulate sounds, and therefore being unable to imitate them.

*Duodenum* is the first portion of the small intestines which receives the chyme from the stomach and in which this fluid is mixed with the pancreatic and biliary secretions, and thus transformed into chyle. It derives its name from the fact that it extends to the extent of about twelve finger lengths.

*Dura Mater* is that membrane which lines the internal surface of the skull and covers the external surface of the brain. Between these two layers are two other membranes of a much finer structure, one called the arachnoid, and the other the pia mater. The arachnoid, as its name indicates, is a fine web-like structure, while that of the pia mater is a membrane containing quantities of blood-vessels which dip into the brain structure. The dura mater is prolonged into various fissures of the brain substance, and acts to a great extent as a supporting membrane to the brain itself.

*Dysentery* is an affection of the mucous membrane of the lower reaches of the large intestine. Its characteristic symptoms are, liquid stools composed principally of mucus mixed with blood, and a constant desire to go to stool, which is always accompanied by severe straining and pain. Dysentery is frequently accompanied by fever and shivering, and as a rule it arises from a congested state of the liver, which is invariably the result of some indiscretion,

either of eating or drinking. In the East it is a disease of much more consequence than it is in this country, because of the fact that it is generally due to the drinking of water contaminated by some decomposing matter which contains the germs of the disease. The proper treatment of dysentery is, first of all, to clear the bowel of the offending matter, either by a dose of castor oil and laudanum or rhubarb in combination with carbonate of soda and grey powder. In the East, however, where this disease is more of a specific character, the great remedy is ipecacuanha, which may be given in considerable doses, and as a rule this medicine has a marvellously good effect. A most useful adjunct to these remedies, in dysentery, is found in an enema containing an antiseptic such as carbolic acid, combined with a sedative such as laudanum, mixed with a solution of starch and injected into the lower bowel. For an adult, 30 drops of laudanum, 4 grains of carbolic acid, mixed with two table-spoonfuls of starch about the consistency of cream, will be found of great service where the desire to go to stool is of frequent occurrence, and where pain and straining are prominent symptoms. Dysentery may be diagnosed from ordinary diarrhœa by the fact that the stools in the former instance are generally slimy and mixed with blood, and small in quantity, whereas in the latter instance the stools are copious and of a brownish colour, and have a very foetid odour. Recently a writer whose experience in dysentery is very considerable has advocated the employment of Epsom salts in the treatment of this disease. His method is to give one drachm of Epsom salts in half a tumblerful of warm water, to which five drops of aromatic sulphuric acid has been added, every four hours until the stools become freely charged with bile, after which a milk diet is insisted upon for a day or two, while the patient is kept in the recumbent posture, special attention being given to keeping the extremities warm. This treatment, if it is adopted, would

be greatly assisted, in my opinion, by the simultaneous employment of the sedative enema which I have advocated.

*Dysmenorrhœa*, or Painful Menstruation, is in every instance due to some abnormal condition either of the ovaries or womb. It is, as a rule, ovarian in its origin if the pain precedes by hours or days the advent of the discharge, and in these circumstances it will generally be found to be located on either one or other side of the body just above the groin. If the pain is coincident with the flow, and referred to the middle line of the lower part of the abdomen, it is in such circumstances due to some congested condition of the womb or its lining membrane, or to a constriction of the orifice. *Dysmenorrhœa* is not difficult to treat if its origin is properly diagnosed. Such cases, however, must come under the care of one who is proficient in the department of gynæcology, and should not be treated by the ordinary practitioner. The author has never encountered the slightest difficulty in successfully removing this painful affection. See "Woman in Health and Sickness," by the author.

*Dyspepsia*, or Indigestion, is one of the most common illnesses that affect civilised races. It is generally brought on by indiscretions in eating and drinking, together with inattention to the daily evacuation of the bowels. Many remedies are advocated as curative agents in this disagreeable affection, but the grand point in every case of dyspepsia is to study the diet and attend to the condition of the bowels. The general rules for the treatment of dyspepsia may be summed up in the avoidance of such articles of diet as tend to undergo fermentation when they enter the stomach, such as soups, stews, boiled meats, and food containing oatmeal; while other articles, such as long-infused tea, pastry, shell-fish, potatoes, uncooked fruit, uncooked vegetables, etc., are injurious, because of the difficulty which the stomach, even in a healthy condition, encounters in digesting them. If an individual suffers from dyspepsia

the condition of the teeth should in the first place be attended to, so that proper mastication may be accomplished, this being the first and most important process involved. If the food is thoroughly masticated and mixed with the saliva before passing into the stomach it is in a condition ready to be acted upon by the gastric juices. Water, or any other liquid, should not be partaken of during a meal, but reserved until the meal is finished. Pepsine, ingluvin, and other digestives of a like nature, will frequently assist a weak stomach if taken in conjunction with the meal. There are, however, so many forms of dyspepsia that it would be quite impossible in a work of this kind to go into the treatment of it in its various phases. Medical aid should therefore be called in, and the strictest attention be given to the instructions received from the physician who is consulted.

*Dysphagia* is a difficulty in swallowing, and may arise either from a nervous condition of the individual or from actual constriction of the oesophagus or gullet.

*Dyspnœa* is difficulty in breathing, and is associated with disease of the heart, of the lungs, of the wind-pipe, and larynx. It may be, and frequently is, coincident with indigestion, when this results in a distended condition of the stomach and intestines from accumulation of flatus. When this is generated to an undue extent the stomach and intestines become so inflated that they tend to push the diaphragm upwards, and thus interfere with the free action of the heart and lungs. Dyspnœa also, and this very frequently, results from the accumulation of fluid within the cavity of the chest, due to pleurisy. It may also be the result of aneurism or dilatation of the large vessels coming from the heart. When there is dyspnœa the patient is unable to lie down, and is therefore obliged to sit up in bed to obtain the greatest amount of ease in breathing.

*Dysuria* is difficulty in passing water, and may arise either from disease of the bladder, or the urethra, or from

the urine being irritating in its properties, which, by acting upon the mucous surfaces of the bladder and water channel, gives rise to considerable pain and difficulty in emission.

*Ear*, as is well known, is the organ of hearing by which we are made sensible of the vibrations which take place in the atmosphere. These vibrations are communicated to the brain by means of the auditory nerve, which receives these impressions from the tympanic membrane, which membrane communicates with the auditory apparatus by a series of minute bones. The ear is divided into minute portions, called the external, middle, and internal portions. The external ear is made up of the auricle and the meatus. What is usually called the ear is intended to collect the vibrations of the atmosphere and convey them through the canal to the drum, which in its turn, as has been before stated, conveys them to the sensory nerves. It is necessary that the internal ear should be in free communication with the atmosphere, so as to prevent undue pressure being exerted upon the membranous drum. This communication is established through the Eustachian tube, which has its exit in the pharynx, which aperture is situated just behind the tonsils. If this tube becomes congested, which frequently occurs in catarrhal affections of the mucous membrane of the nose and throat, then deafness results from the fact that the air becomes rarefied within the internal ear in consequence of its cavity being to a certain extent isolated from the external atmosphere. This form of deafness is popularly known as throat deafness. The sense of hearing may be, and frequently is, interfered with by an undue secretion of wax in the external ear, which acts as a barrier to the waves of sound travelling in the atmosphere. This as a rule can easily be remedied by the judicious use of the ear syringe. No case of deafness, however, should be treated by amateurs, but should invariably be confided to a competent medical man.

*Early Rising* has been extolled on all hands as conducive to health, yet we must always remember that the body requires a certain amount of rest in bed, so that early rising, without being accompanied by going to bed at a reasonable hour, is simply out of the question. "Early to bed and early to rise" is certainly a much better rule than late to bed and late to rise, and it will always be found that a good start in the morning aids one in many ways. There can be no doubt that sleep in the early hours of the night is much more refreshing than that which is obtained in the morning. Morning, too, is the best time of the day for taking exercise, and the healthiest man is he who takes advantage of this, the general tone of the body being invigorated and the digestive powers likewise improved.

*Earth-Closets* are certainly the most approved method of removing and utilising the excreta of the human body. Their action is based on the well-known antiseptic properties of dry earth. By their use sewage contamination is completely averted, and thus the danger from emanations of sewage gas thoroughly done away with. If earth-closets were more universally adopted we would, to a large extent, find such diseases as typhoid fever, diphtheria, and cholera disappear. Beside these advantages, contamination of our streams would be largely done away with, and instead of converting these into common sewers we would have comparative purity of rivers, and as a natural consequence the health of the populations would improve.

*Ecchymosis* is that condition which supervenes upon a blow by a blunt instrument. The best example of ecchymosis is that which we find after a blow in the region of the eye, where the colouration of the part becomes of a dark purple, due to the rupture of the minute vessels circulating in the injured tissues, the consequence being that the venous blood becomes extravasated and produces the swelling and discolouration.

*Ecthyma* is a skin disease in which small pustules are developed. It is generally due to some acid condition of the blood.

*Eczema* is intrinsically a disease of the epidermis, in consequence of which the outer layer of the skin does not mature, and therefore permits the exudation of the watery portion of the blood. Eczema is characterised by what is technically called a "weeping surface," which on drying develops an incrustation or scab. This, on being removed, reveals a red, angry, and moist surface, which is exceedingly irritable and gives rise to considerable pain and itching. Eczema may attack any portion of the skin, but its most frequent seats are behind the ear, the flexures of the joints, the hands, feet, and legs. Want of cleanliness in many instances, especially in the case of infants, gives rise to this affection. It is frequently a concomitant of the rheumatic diasthesis, and in such circumstances is very intractable. People suffering from eczema should therefore be carefully dieted so as to keep down any acid tendency of the blood, and at the same time arsenic, in the form of Fowler's solution, may be given in 5-drop doses three times a day after food. The best application which the author has employed in the treatment of this disease is one containing the oleate of mercury and oleate of zinc ointments in equal proportions, with 5 per cent. of the following—carbolic acid, cocaine, and aristol added to it. This ointment should be applied night and morning on a piece of lint.

*Effluvium* is a gaseous emanation from bodies in a state of decomposition, always offensive in odour and noxious in its effects. Effluvium arising from decomposing animal and vegetable substances is most pernicious and liable to give rise to disease.

*Effusion* is the term applied to the disease process which results in an excessive amount of fluid being generated in the cavities or tissues of the body—*e.g.*, in pleurisy an

undue amount of fluid accumulates within the pleural cavity, and by virtue of its presence interferes with the free action of the lungs—this is called pleuritic effusion. An inflammatory affection of the pericardium also may result in effusion into that cavity, in which case the heart's action is materially incommoded. In inflammation of the peritoneum, or lining membrane of the abdomen, fluid may accumulate in such large quantities as to distend the cavity to an enormous extent. This is popularly known as Dropsy, and is technically termed Ascites. Effusion may also take place into the cavity of the skull, when it is termed Water in the Head. When it takes place in the scrotum it is termed Hydrocele. Effusions occur in the joints and tissues of the body, and also within the lung substance. In the latter instance it is usually associated with disease of the heart or kidneys.

*Electricity and Galvanism* are employed, not only in the investigation of disease, but also in the treatment of various affections of the nervous system. Electricity is also employed as a cautery, and is most useful in removing unhealthy growths, as, by its employment, the danger of bleeding from the cut vessels is very much reduced. The electric lamp is also frequently employed now in the investigation of disease, especially of various internal organs. The employment of electricity has recently been recommended in the treatment of fibroid tumours of the womb, but so far the results obtained have been far from satisfactory. This force, combined with massage, has been brought into considerable prominence of late, and doubtless great benefits have resulted from its judicious application.

*Elephantiasis* is applied to those diseases of the integument where it puts on an unhealthy growth and attains gigantic proportions, in consequence of the thickened condition of the skin and the tissues lying immediately beneath it. Leprosy is a form of elephantiasis, and is called Elephantiasis of the Greeks. It is characterised by a shining

tubercular condition of the integument, which tends to ulcerate and slough. It is a disease of a most painful character, and is no doubt infectious. It reduces the patient to the most pitiable condition imaginable. There are other forms of this disease which are more local in their effects, and which can be removed by simple operation.

*Emaciation*, or Wasting of the Tissues, may progress to such an extent that the individual may be literally described as being composed of only skin and bone. It is a symptom that may either indicate very dangerous or simple disease. It not unfrequently occurs in dyspepsia, but as a rule it depends not so much upon a deficient action of the stomach as upon the loss of power of assimilating the food after it has been digested. It is a constant symptom in pulmonary consumption and malignant disease of the liver and other organs. The great point in the treatment of emaciation is to endeavour to restore the glandular system, and this can frequently be accomplished by the judicious administration of the muriate of calcium together with careful dietetic measures.

*Emergencies* is a term which may be applied to occasions where accidents occur, and where one's own judgment requires to be promptly and judiciously called into action during the absence of medical assistance, such as in the case of injury, sudden haemorrhages, fits, drowning, burns or scalds, poisoning, etc. It would, however, be very injudicious for any one to interfere in such circumstances without having some knowledge of how to act, as frequently more injury may be produced by ignorant meddlesomeness than by leaving the patient alone. In the event of an accident resulting in fracture of the limbs or skull, the great point to be observed is to keep the injured part as much at rest as possible, so as to prevent the fractured portions of bone injuring the soft tissues in their immediate neighbourhood until proper medical assistance is procured. If a person receives a wound where the

haemorrhage is considerable, then the duty of the individuals at hand is to endeavour to arrest the bleeding by the application of compresses wrung out of cold water and applied firmly over the bleeding parts; and if the situation of the wound is in a limb, a tight band should be tied above the bleeding orifice, so as to constrict the arteries which are pouring blood into the injured limb. In the case of burns or scalds, the greatest relief may be obtained by repeated applications of rags wrung out of Condyl's fluid diluted with water. If the accident produces so much shock as to induce faintness or collapse, it is advisable to administer brandy and water from time to time, and at the same time keep up the heat of the body by the application of hot-water bottles to the extremities. In convulsions it is always desirable to lay the patient down and undo anything that constricts the neck or chest, while a piece of wood or cork may be placed between the teeth to prevent the patient biting the tongue, and on no account should any attempt be made to make the patient swallow anything during the convulsion. In poisoning it is always desirable to induce vomiting. This may be obtained by the simple method of mixing a table-spoonful of mustard in a cupful of warm water and giving it to the patient, following this up by copious draughts of warm water until vomiting ensues. If there is violent vomiting after an injury, this as a rule will indicate that the brain has suffered to a considerable extent. In these circumstances it would be advisable to keep the head cool by the application of cold water cloths or ice, while the extremities should be kept warm by hot-water bottles and mustard poultices applied to the calves of the legs and to the pit of the stomach.

*Emetics* are those substances which induce vomiting when taken into the stomach or injected into the skin. The most powerful substance for this purpose is apomorphine, which is always used subcutaneously, which operation is speedily followed by the emptying of the stomach.

Those medicines which are used most frequently as internal remedies are—antimony, ipecacuanha, sulphate of zinc, and mustard and water. The most efficient method, however, of emptying the stomach in the event of poisoning is by means of the stomach-pump, by which apparatus the organ can be not only emptied of its contents, but washed out at the same time, thus ensuring the complete removal of the foreign substance from this cavity. An emetic is often of very great service, especially in children, where there is great accumulation of mucus in the chest. It is also a useful remedy in certain spasmodic affections, such as spasmodic croup, colic, asthma, etc. Great care should be always taken, however, in resorting to the employment of emetics, as considerable mischief may follow their use—*e.g.*, in pregnancy and in persons of a plethoric habit. They are also dangerous in cases of falling of the womb and in rupture.

*Emollients* are those remedies which have a soothing and relaxing effect upon the parts to which they are applied. Amongst these may be mentioned the inunction of oily and fatty matters, the application of steam containing certain remedies when inhaled, and which have a soothing effect upon the mucous membrane of the throat and air passages.

*Emphysema* is the presence of air in the cellular or connective tissue of any part of the body. It, as a rule, results from a fractured rib which penetrates both the lung and the neighbouring tissues, the result being that the air is pumped through this channel at every breath the individual draws into the cellular tissue of the body, and inflates these tissues to such an extent as to completely remove their normal features; this is called general emphysema. When the injured rib has been placed into proper position, or set, the air which has found its way into the tissues of the body gradually absorbs, and no evil result follows. Emphysema of the lung, however, is due to quite a different cause, and

is the result of long-continued chronic bronchitis or asthma. It is in this instance due to rupture of the walls of the air vesicles of the lung itself, so that the partitions between numbers of these vesicles are broken down and their number thereby very much decreased. The consequence is, that the area over which the capillary circulation of the lungs takes place is very much reduced, and the blood does not become so readily and easily oxygenated. Breathlessness is therefore a result in consequence of this inability of the lung to perform its functions perfectly. The general lines of treatment of emphysema of the lung is the avoidance of cold, especially at night, so as to reduce the risk of any inflammatory attack. A respirator should always be worn in cold, damp, or foggy weather; indeed, the general lines of treatment which are adopted for weakness of the chest, due to bronchitis, etc., should also be followed in this disease. Considerable relief may frequently be experienced by the inhalation of creasote, pumuline, menthol, a few drops of chloroform, or other soothing agents.

*Empyema* is the result of pleurisy where effusion into the pleural cavity has taken place, this effusion of lymph having become transformed into pus. It necessarily is a dangerous disease, and should be relieved by tapping as early as possible. This can be accomplished, if antiseptic precautions are taken, with comparatively little risk.

*Empyreuma* is that offensive odour which many substances acquire in the process of cooking in close ovens or vessels. This takes place in baked meats, pastry, etc., if thorough ventilation of the cooking apparatus and a free exit to gases accumulating within the pie-dish be not permitted. Naturally such food is not wholesome; indeed, it is dangerous to consume it.

*Emulsion* is a mixture of oil, water, and an alkali. New milk, for instance, is an emulsion of cream and milk; the fat, in this instance, separates in the form of cream from the

milk in consequence of the mixture not being complete. Emulsions can be made for medical purposes by the admixture of gum or the yolk of egg with fluids such as water, gruel, milk, soups, etc. Sweet almonds powdered and mixed with water are frequently used in emulsion as a vehicle for giving medicines which tend to fall to the bottom of the fluid.

*Endemic* is that term which is applied to diseases affecting communities, but due to the district or surroundings of the individuals attacked. Ague, dengue, cretinism, are all endemic. Typhoid fever, cholera, and rheumatism are also frequently endemic. It is a curious fact that the constitutions of individuals of certain localities have, by some process or other, become rendered impervious to endemic disease.

*Enema* is probably one of the most useful medical measures that can be employed in the treatment of constipation and its baneful effects. It is easily applied and gives immediate relief, and as it can do no possible injury, being simply a process of washing out the lower bowel by means of suitable fluids, it does not deserve the antipathy which so many have towards it. Frequently persons, and especially children, feel a degree of discomfort, weakness, irritability of temper, and depression of spirits, and when this is accompanied by cold feet, a shivering sensation over the body, bad taste in the morning, and frontal headache, we may rest assured that these symptoms are all due to a loaded condition of the lower bowel. If an enema, composed of one pint of warm water to which a table-spoonful of common salt has been added, be injected into the lower bowel and retained for a few minutes, the probability is that a copious stool will be obtained, and in a short time all these disagreeable symptoms will have disappeared. Many prefer soap and water as the component parts of an enema, but soap is much more irritating to the mucous membrane than salt, and therefore salt is to be preferred.

Several forms of apparatus have been introduced for the administration of this remedy. When it is to be employed for children the ball syringe is to be preferred, but the most complete enema apparatus which is also applicable for children, but more especially for adults, is what is generally known as Higginson's or Davidson's enema syringe. The enema is not unfrequently employed in the treatment of worms, dysentery, and diarrhoea. Where the discharges are offensive, in the two latter cases the enema contains an antiseptic as well as an anodyne, with a view of soothing the irritated mucous membrane, and also to destroy any disease germs that may be present within the intestine.

*Enteric Fever*, frequently named Typhoid or Gastric Fever, is due to the absorption through the alimentary canal of specific disease germs. It is a disease which runs an uncertain and always a long course, and is very liable to relapses. In the majority of instances it is due to bad sanitary arrangements. It cannot, however, be definitely stated that it is the result *per se* of the inhalation of sewer gas; on the other hand, it is very frequently the result of the contamination by sewage gas of water, which by virtue of this absorption is enabled to provide pabulum for the germs of the disease, and thus enable them to assume an active form. If water containing germs thus nourished is taken into the stomach of persons debilitated by other causes, these individuals are highly susceptible to typhoid fever. Now, as the inhalation of sewer gas has a most depressing effect upon the vitality, it thus plays a secondary part in the production of the disease by rendering the individual more susceptible to disease of any kind, and particularly so to typhoid fever. It is yet an open question whether this fever is contagious or not: for my part I do not think it is, and I have searched for evidence on this point for many years. The great dangers of typhoid are the high temperature which accompanies it and the

tendency of the bowels to ulcerate, thus giving rise to haemorrhage, which not unfrequently proves fatal. The characteristic symptoms are, in the first place, great prostration of the bodily strength accompanied by a high pulse, furred tongue, and copious diarrhoea which has the appearance of pea soup. The temperature usually rises at night and falls towards morning, and not unfrequently an eruption of purplish coloured spots may be observed on the surface of the abdomen and sometimes on the chest also. When the disease has advanced to any considerable extent the tongue becomes dry and coated, and sordes appear on the teeth. All the secretions except those of the mucous membrane of the bowel become deficient, and the urine especially, which is of the most consequence, is liable to become very scanty, so that the secretion of the kidneys being seriously interfered with, uræmic poisoning takes place, resulting in coma. The high temperature, without doubt, has altogether to do with this partial paralysis of the organs of secretion, and it is therefore most important in the treatment of this disease to endeavour to keep the temperature down, while it is also necessary, with a view of preventing waste of strength, that the diarrhoea should be controlled as much as possible. The best antipyretic that can be employed in this instance is phenacetin, which not only possesses the advantage of rapidly reducing the temperature, but of being perfectly safe in every respect; if given in eight-grain doses every four hours to an adult it rapidly brings down the temperature and has a soothing effect on the patient, in many instances promoting sleep as well as copious perspiration. Of course it goes without saying that judicious nursing is most important in this terrible disease, while the diet must be carefully attended to and the room kept well ventilated. Not unfrequently the high temperature of typhoid fever has been treated by cold affusion, or even the cold bath. The hydropathic pack has also in many instances proved highly efficacious; and

where great prostration of the vital powers has taken place and death appeared to be imminent, the application of ice bags over the heart and abdomen have given immediate relief, and in not a few instances tided the patient over the crisis. These seem to be heroic measures, but they have been found in the author's experience of the greatest service to the patient. Within recent years the author has had recourse to the internal administration of naphthaline together with chloroform water in the treatment of this disease, and the results have been so eminently satisfactory that the course of the disease has been considerably diminished. Naphthaline, from its intensely disagreeable taste, is most difficult to administer; this, however, has been overcome by having it enclosed in capsules, each of which contains four grains. The patient, therefore, is now enabled to take the medicine without any unpleasant sensations. For an adult, two should be given every four hours together with a tablespoonful of chloroform water, while another tablespoonful of chloroform water should be taken midway between each dose of the naphthaline. This substance seems to have a powerful germicidal effect upon the poison to which the disease is due. As a rule, if this treatment is adopted, the disease will be completely arrested in the course of from twenty-one to twenty-eight days, whereas the usual duration of enteric fever is estimated at forty-two days. Moreover, the disease is not so liable to attain its usual virulence if this treatment is adopted.

*Enteritis* is, literally, inflammation of the intestines, or, more accurately, of the intestinal mucous membrane. It is generally due to catarrh, and is indicated by excessive mucous discharges. Dysentery is in reality enteritis of a small portion of the colon, but the catarrhal inflammation may, and frequently does, affect the whole mucous membrane of the alimentary tract. The most useful treatment in such circumstances is the administration of tar in

conjunction with small doses of arsenic given after food, while the diet should be of the simplest and most easily digested kind.

*Entozoa* are those parasitic animals which obtain a nidus within the body. The most common forms of entozoa in man are intestinal worms, but there are others of less frequent occurrence, such as cysticercus, trichinæ, guinea worm, and possibly the itch insect may come under this class.

*Epidemic* is a term applied to those diseases which spread from one individual to another by infection, such as influenza, scarlet fever, measles, hooping cough, typhus fever, etc. Cholera, typhoid fever, and diphtheria have often been classed in this form of disease, but the opinion of the author is that none of these last mentioned are infectious in the same sense as those previously mentioned. The great remedy against epidemic diseases is to observe strict cleanliness both of the person and of the domicile, to endeavour to sustain the vital functions, and to be assured of perfect ventilation. Of course, isolation of the patient, together with the use of antiseptics in his apartment, would be absolutely necessary to ensure safety to the other members of the household; but the grand point to be enforced is the keeping up of the hygienic conditions of those who have not contracted the disorder.

*Epidermis* is the outer or scarf skin, or cuticle. It is this layer which rises in a blister after scalds or burns of a slight nature, and when a blister has been applied. It is also this portion of the skin which is diseased in certain skin affections, such as eczema, psoriasis, and which is thrown off in certain acute fevers, such as scarlet fever, measles, etc.

*Epiglottis* is a small valve of a heart shape which covers the glottis or opening into the larynx, so as to protect it from the introduction of foreign bodies.

*Epilepsy*, or Falling Sickness, is a disease which is generally accompanied by a premonitory sensation on the

part of the patient called the "Aura," which sensation is succeeded by a convulsive seizure, accompanied by foaming at the mouth, lividity of the countenance, and severe spasmodic contraction of the muscles of the body. As a rule, in consequence of the tongue falling between the teeth, it is liable to be bitten by the spasmodic closure of the jaws, and therefore blood becomes mixed with the salivary secretion which exudes in considerable quantities from the mouth during an attack. It is therefore desirable to take precautions against this accident by introducing a piece of wood or india-rubber between the teeth. All articles of clothing which tend to constrict the breathing apparatus should be loosened, and the patient laid upon a sofa or bed, or even the floor, until the convulsions cease. These will be succeeded by a heavy, stupid look or a deep sleep, which may continue for some hours. This sleep should not be disturbed, as, if the patient is forcibly wakened, his mental functions will be found to be temporarily suspended. Epilepsy varies very much in severity, some attacks being very mild and others very severe in their nature. Epilepsy occurs very frequently during sleep, and is undoubtedly in such circumstances superinduced by a deranged condition of the digestive organs or the bowels; indeed, any disturbance of the nervous system may, in an epileptic subject, give rise to an attack. Epilepsy is frequently a hereditary disease, but it may be, and certainly is, in many instances induced by blows on the head, worms, dyspepsia, constipation, and over-indulgence. In infancy the nervous system is highly sensitive, and readily acted upon by various irritating causes; thus a deranged digestion, or the irritation of dentition, or constipation, frequently give rise to attacks during the infantile period of life. It is rarely that epilepsy results in death, though, after repeated attacks, a fatal issue may result. When death does occur, however, in this disease, it is not as a rule so much due to the attack as to the suffocation which arises from

constriction of the muscles of the throat and chest. In the epilepsy of children, and adults also, the disease may be cut short by the administration of chloroform, but to prevent its recurrence is more important than the treatment of the attack when it has developed. However, in infants a fatal issue may frequently be averted by administering chloroform during the seizure, and it should always be ready on the least indication of an attack threatening, so that the chloroform vapour may be administered and thus cut the attack short. Amongst the various remedies which have been advocated in the treatment of epilepsy are—the bromide of potassium, belladonna, antipyrine, phenacetin, and chloral, but the great point is to attend strictly to the digestive and excretory organs, and the patient should be relieved of all unnecessary anxiety and worry.

*Epistaxis* is the technical term applied to bleeding from the nose. When this occurs great benefit will often be derived from the simple method of holding up the hands above the level of the head, also by the application of cold to the spine. When, however, the bleeding is persistent, it may be necessary to plug the nares. This is most efficiently accomplished by introducing an india-rubber bag of a cylindrical shape, and filling it while within the nares either with water or air, and thus bringing pressure to bear upon the bleeding surface. Cotton wool is also used as a plug in these circumstances, and before its introduction the plugs may be saturated with an astringent solution, such as a solution of tannin or per-chloride of iron. Some people, in consequence of the peculiar structure of the veins, are very liable to frequent bleeding from the nose. These patients should be treated for a lengthened period by the administration of remedies which are known to have a special effect upon the blood and the veins. The most useful of these are, tincture of iron and the extract of witch hazel or hamamelis.

*Epithelium* is the cuticular or external layer of the skin and mucous membrane. It is made up of laminated cells of a horny texture, and is constantly being exfoliated and reproduced. See *Cuticle* and *Epidermis*.

*Epsom Salts*, or Sulphate of Magnesia, is one of the most popular saline purgatives which we possess. In a dry state it enters into nearly every effervescent saline, and is sold under various names, such as Eno's fruit salt, effervescent saline, etc. It also enters largely into the bitter waters which are so much advertised at the present time; amongst these may be enumerated Fredrichshall, Hunyadi Janos, etc. Epsom salts should invariably be taken when required for purgative purposes in a very dilute solution, and preferably before breakfast.

*Ergot of Rye* is the diseased fungoid condition of the cereal rye. It is black in colour, about half an inch long, and about a quarter of an inch thick. It has a powerful stimulating effect upon the involuntary muscular tissues, especially upon those of the womb; hence it is largely used by accoucheurs for stimulating that organ during parturition, and also in inducing a contractile condition if there is any tendency to haemorrhage. It is also employed in producing contraction of the arteries in internal bleedings from the lung, stomach, kidneys, and bladder.

*Eructation* is always the result of indigestion, in consequence of which large accumulations of gas are generated in the stomach, and are emitted through the mouth. Charcoal in powder is very useful as a palliative agent, but the great point to attend to where eructation is troublesome is the diet, and improving the digestive functions by suitable remedies, such as pepsine, ingluvin, and tonic medicines.

*Eruption* is a diseased condition of the skin, arising either from a vitiated condition of the blood, without this being due to a specific poison, or it may arise in the course of certain febrile diseases, such as measles, scarlet fever, small-pox, etc.

*Erysipelas* is an inflammatory affection of the skin, and sometimes also of the subcutaneous tissue, arising from a specific germ which locates itself in these tissues, and develops its progeny there. It is always accompanied by considerable pain and hardness of the part affected, together with a highly febrile condition of the system at large. It may, and frequently does, develop without any external injury having preceded it, in which case its usual seat is in the face, and when it affects this part of the organism there is always a risk of its spreading to the covering membrane of the brain, when it generally proves fatal. It not unfrequently, however, takes its origin in an injured surface, and when this is the case may occur in any part of the body. The most approved treatment of erysipelas is to cover the parts with a solution of ichthyoal and glycerine, and administer ten drops of the tincture of muriate of iron every two hours, while the bowels should be carefully attended to, and the diet be of a light and nutritious character.

*Erythema* is a superficial congestion of the skin often resembling erysipelas in its appearance, but it is not attended by any of the dangerous symptoms of this affection. It is usually the result of some gastric disturbance. The congestion of erythema may be so severe as to result in the formation of vesicles on the surface attacked. There is a form of this disease termed Erythema Nodosum, to which persons of a rheumatic or syphilitic constitution are liable. These painful swellings are usually located over the shin bone or on the forehead. The simple form of erythema is best treated by the administration of medicines which improve the digestion and keep the bowels in a healthy state of action. Erythema nodosum, on the other hand, requires the administration of iodide of potassium, together with blisters over the inflamed area.

*Eschars* are those portions of the skin or mucous membrane which are destroyed by the application of caustics,

and which separate from the living body by the process of sloughing.

*Eucalyptus*, or the Blue Gum Tree of Australia, has obtained a great reputation on account of its antiseptic powers. The tree itself is a most powerful destructive agent of the miasma which gives rise to ague, while the essence obtained from the leaf is largely used as an inhalation in many infectious diseases, such as influenza, diphtheria, catarrh, etc. It is also frequently employed in chronic diseases of the chest, amongst which may be mentioned chronic bronchitis, emphysema, and consumption.

*Eustachian Tube* is that canal which connects the internal ear with the pharynx, and thus permits a free passage of air into the tympanum. Catarrh spreading to this tube is frequently the cause of deafness, in consequence of this channel being either partially or totally occluded ; this goes under the name of Throat Deafness.

*Exanthemata* are those eruptive diseases accompanied by fever, such as scarlet fever, measles, and small-pox. They are also termed Zymotic Diseases.

*Excretion* is that which is thrown out from the human body, being either superfluous or noxious in character. Excretions are distinct from secretions in so far that the former are of the nature of debris, while the latter are produced by glandular structures, and are thereafter utilised in the digestion or assimilation of food. Amongst the excretions are—perspiration, urine, and the excretion of the bowel. Healthy elimination of the excretion is as important to the health of the individual as the secretion of the various organs, because if excretion does not take place, absorption of foetid matter is liable to occur and blood poisoning result.

*Exercise* is one of the most important factors in maintaining the health of the body. Every man and every woman should undergo a certain amount of out-door

exercise every day. It is not sufficient that the daily requirements, as far as internal duties are concerned, are undertaken; no one thing probably has such an effect upon the health of an individual as a systematic amount of exercise in the open air, whether this be walking or horse exercise; hence out-door games, such as tennis, golf, cricket, and football, are to be highly commended in consequence of the exercise which such games necessitate. Shooting and fishing are also health-giving exercises in consequence of the amount of walking and enjoyment which they give. It is wrong, however, to take exercise immediately after taking food; rest should always be enjoyed for a longer or shorter period after a meal.

*Exfoliation* is the separation of dead from living tissue, such as when a dead piece of bone is separated and thrown off from the living; it is then said to exfoliate.

*Exhalation* is applied to excretion of the lungs and skin when these occur in the form of vapour. In the normal state of the human body it is calculated that from thirty to forty ounces of water pass every day from the respiratory organs, and that from fifteen to twenty-five ounces of perspiration are inhaled by an adult. If the functions of the skin are interfered with in any way, considerable danger may arise in consequence of the interference of free perspiration. A healthy condition of the skin and kidneys is essential to health.

*Exhaustion* is in every instance the result of prolonged effort, whether this be on the part of the muscular system, the nervous system, or the organs of the body at large. It is wonderful, however, how different organs and tissues can, by proper training, be fortified against exhaustion, so that fatigue which in ordinary circumstances could not be borne without consequent evil effects will under certain circumstances, where long training has been persisted in, be borne, and the individual be little the worse of what would otherwise produce great prostration. Amongst the restorers

which are serviceable where endurance is essential in consequence of prolonged fatigue are—strong tea, coffee, cocoa, and kola. These do not act as nourishing agents, but seem to have power in preventing undue waste of the muscular tissue.

*Expectorants* are a class of remedies which enable the air tubes to throw off an excessive secretion from their mucous membrane. Amongst the most popular expectorants are —ipecac, antimony, paregoric, tolu, ammonia, pumuline, and terebine.

*Expectoration* literally means the putting out of the secretion of the chest. In certain diseases, such as consumption, bronchitis, and catarrh, there is always secreted an undue amount of pernicious fluid within the pulmonary apparatus which requires to be coughed up and ejected from the mouth. In certain circumstances it is with considerable difficulty that this is effected, when, of course, expectorants must be employed to help nature in her efforts. If the expectoration is frothy in its character it is usually due to bronchitis or catarrh of the air passages. If, on the other hand, it is more or less purulent and consolidated in character, it may be taken for granted that there is consumptive disease of the lung. If it is viscid and rusty in colour it is in all probability due to pneumonia or inflammation of the lung.

*Eye* is the organ of vision, and is one of the most beautiful structures of the human body. Not only is it beautiful, but it is perfect in every particular, and manifests in a small compass the great, the unspeakable, the incomprehensible power of our Creator. It is important to man, and its adaptation to its requirements is beyond the power of speech to describe, and in a work like this it is quite impossible to give anything but a mere outline of its structure. It is naturally divided into two sections, the globe of the eye and the appendages which control its movements. As is well known, it is situated in a bony

case which protects it as perfectly as possible from external injury ; this is called the socket, in which it revolves and moves in so many directions. The eyeball is protected from injury to a large extent by the eyelids, which automatically, so to speak, close on the approach of anything that is likely to injure the delicate membrane which covers the eyeball. The external covering of the eye, which is reflected upon the eyelids, is called the conjunctiva or white of the eye. In the centre is the pupil, which opens and closes by the action of a muscle called the iris, while that part composing the coloured portion, together with the pupil, is called the cornea. The globe of the eye itself is barely one inch in diameter, and measures longest from before backwards. It is completely enveloped by the sclerotic, which is composed of a very firm membranous structure. This membrane, however, does not continue beyond the margin of the cornea, and at the posterior surface it opens so as to permit the passage of the optic nerve. Within this membrane is the choroid coat, which is of a dark brownish colour, and within that is situated the retina or expansion of the optic nerve, which forms the layer called the sensitive coat, upon which objects are projected, the impressions of which are conveyed to the brain. The globe of the eye is filled with two remarkably transparent fluids contained in chambers, the anterior of which is called the aqueous humour, and the posterior the vitreous humour, between which two chambers is situated the lens. To produce the sense of vision the rays of light emanating from the objects in front of the eye pass, first of all, through the cornea, then through the aqueous humour, the lens, and the vitreous humour ; and in their passage undergo certain refractions which bring them into their proper focus on the retina, where the picture or the impression is conveyed to the brain through the channel of the optic nerve. The object of the dark-coloured or choroid coat is to absorb all the

superfluous rays of light, which otherwise would confuse the vision. The eye is subject to many diseases, such as ophthalmia, or inflammation of the conjunctiva or external layer; this is called Conjunctivitis. Scleritis, on the other hand, is usually of a rheumatic nature, and is distinguished from conjunctivitis, which produces a red colouration of the conjunctiva, by producing a more livid appearance. The cornea may likewise contract inflammation, when it is liable to become opaque, and therefore interfere with the transmission of the rays of light. The lens also may be affected, and in process of time become completely opaque, when the disease called Cataract is the result. The humours of the eye may be the seat of disease, and also the retina and choroid coat. These diseases, however, are of so great importance to the individual that it seems to be quite beyond the scope of this work to attempt to give any directions as to treatment, as this can only be successfully carried out by one well versed in ophthalmic disease.

*Faceache.* See *Neuralgia*.

*Fainting* is a state of unconsciousness due to an abnormal contraction of the blood-vessels supplying the brain. Some people, especially those of a nervous temperament, are more liable to faint than others. Fainting is, as a rule, due to a shock received by the nervous system, which may be produced in various ways, such as witnessing an accident, or the sight of blood, and sometimes it has even been known to result from smelling a rose. It may also arise from some affection of the mind, such as grief, intense joy, or other emotions, and not unfrequently it results from weakness of the heart's action, loss of blood, or any cause which acts injuriously upon the vital energies. When fainting occurs the patient will naturally involuntarily assume the recumbent posture, and thus injuries may be inflicted if the head comes in contact with any hard object in falling. The clothing about the throat should be

immediately loosened, while cold water may be dashed on the face and strong smelling salts applied to the nostrils, and if the person is capable of swallowing, a little sal volatile, or brandy mixed with water, may be given by the mouth. Nitrite of amyl, which becomes volatile very readily, may be administered on a pocket handkerchief, five drops at a time. The inhalation of this substance causes relaxation of the blood-vessels, and therefore all the faint symptoms disappear. It may be necessary to apply strong friction, or a mustard poultice, over the region of the heart.

*Farina*, or Starch, enters largely into the composition of all cereals and certain tuberous plants, such as the potato. It therefore enters largely into articles of diet, and is utilised in the formation of fat and in sustaining the animal heat.

*Farinaceous Food*, although wholesome, cannot be said to possess the properties of sustaining muscular exercise to the same extent as food containing more nitrogenous matter. Certain cereals, however, contain within them a large proportion of muscle and bone-forming material, and therefore contain both farinaceous and nitrogenous food. The most important of these are oats, peas, and beans. In the manufacture of white bread the cuticle of the seed is removed, leaving almost pure starch as the component part of the flour. In this way the most nutritious portion of the grain is removed, and the bread rendered less wholesome thereby. It is preferable therefore to use whole wheaten meal in the manufacture of bread, and it will always be found that brown bread is not only more nutritious, but more easily digested than white bread. The value of oatmeal in the form of porridge is so well known that it is quite unnecessary to comment upon it. Peas porridge is also a most wholesome article of diet. The forms of farinaceous food which are almost entirely made up of starch, such as arrowroot, sago, and tapioca, contain within

them in reality very little nourishment. The greatest benefit may be derived, however, from their admixture with milk, which is almost universally employed in their preparation as articles of diet.

*Fasting*, remaining without food for a longer or shorter period beyond the usual meal times, is sometimes beneficial in cases of disordered stomach due to over-indulgence. Abstinence from food can be longer tolerated than abstinence from water. At the same time fasting, except for a very short period, cannot but be injurious to the body at large, and those individuals who make an exhibition of themselves, and try their constitutions to such an extent as to permanently injure them, should in no instance be encouraged. It is quite sufficient when individuals, from dire necessity, are compelled to do without food, without any voluntary act of the kind being indulged in.

*Fat* enters largely into the food of the human race. It is composed, for the most part, of hydrogen and carbon, and is the fuel, so to speak, by which the animal heat is sustained. Its power of sustaining heat is two and a half times greater than starch and sugar, which also are hydrocarbons. An undue deposit of fat on the body, however, may be considered, to a certain extent, a disease, and if it becomes excessive should be checked in its development by strict attention to diet—fat, sugar, and starch being excluded. An undue deposit of fat is very liable to take place in the abdominal cavity, in that structure which is called the omentum. Many medicines have been recommended with a view to prevent the undue development of fat, but it is impossible to produce this effect by this means without in some measure injuring the constitution. The great cure for obesity consists in strict attention to diet. See *Banting*.

*Fauces*, the Gorge, is that space between the back of the tongue and the upper part of the gullet, and is bounded on each side by the tonsils, and overhung by the uvula.

*Favus* is a disease of the scalp due to a fungoid growth which burrows into the hair follicles and produces a loathsome yellow scab. It is a most difficult disease to get rid of, and as loathsome as it is inveterate. The most efficacious method to employ is, first of all, to poultice the scalp, so as to remove the encrustation, and afterwards to rub over the diseased surface the oleate of mercury ointment, combined with 5 per cent. of chrysarobin. This should be repeated every day.

*Fear* in nervous people is very liable to be seriously injurious, and may give rise to convulsions, faintness, and even complete cessation of the heart's action. Fear, therefore, should never be resorted to to terrorise children into good behaviour, and nurses especially should be warned against frightening the little ones placed under their care.

*Febrifuge* is an old term applied to those medicinal agents which have the power of reducing fever, the most popular of which, until within recent years, was quinine. Other substances, however, of much greater value have been introduced into medicine within the past decade, the most notable and useful of which is phenacetin; while others, such as antipyrine, antifibrin, have also been employed, but these are attended by more danger, and therefore should be avoided. Salicin, salicylate of soda, salol, and other substances are also very useful as febrifuges, especially in rheumatic affections. By these medicines rheumatic fever has been shorn of a great portion of its danger, and its duration has also been considerably shortened.

*Fecula*, or Starch, is an ingredient entering largely into the composition of plants. Its object is evidently to give nutrition to the newly-developed parts, thus in seeds, where it is most abundant, it nourishes the embryo until it is able to put out roots and obtain nourishment from the soil. Starch, therefore, is a nutritious agent to a certain extent, and although it, like sugar and gum, contains little real

sustenance, and is quite incapable of building up bone and muscle, it performs the useful function of supplying fuel to the animal economy, and when this is not required these substances assist in the formation of fat. Starch approaches very nearly to gum in its composition, and is distributed throughout the entire organism of plants.

*Femur*, or Thigh Bone, is the longest bone of the human body. It is frequently the seat of fracture, and in such circumstances requires the greatest care possible on the part of the surgeon in placing the parts in apposition, and retaining them there by suitable splints.

*Fermentation* is a process of decomposition due to the development of a vegetable substance within the fluid which is being acted upon. These micro-organisms are popularly termed ferments. To produce fermentation it is absolutely necessary that an albuminous principle be present; thus, a solution of pure sugar will not ferment however long it may be kept, but if a ferment, be it either vegetable or animal albumen, be added to the solution, change will quickly commence, and will continue until fermentation is complete. There are various kinds of fermentation, such as the vinous fermentation which produces alcohol, the acetous fermentation which produces vinegar, and the lactic fermentation which occurs in milk. Fermentation may likewise take place in the stomach, when it gives rise to acid eructations and the development of flatus. This fermentation is the factor of acid dyspepsia. It is quite possible by the aid of a microscope to discover all the kinds of fermentation, by the shape of the micro-organisms which are producing the chemical change.

*Fermented Liquors* have, in all ages, been largely employed as beverages. They consist in the fermented juices of fruits, such as grapes, pulque, and other sweet fruits. The juices of fruit will undergo fermentation without any assistance, if simply left to themselves. The

liquors most commonly in use are—the grape wines, liquors made from apples and pears, and malt liquors.

*Fern.*—Only one species of fern is employed in medicine, viz., the male fern, from which is extracted an oil which has a destructive effect on the tape-worm. The proper way to give this medicine is, first of all, to avoid taking food for a few hours before the medicine is given, then the oil may be given on an empty stomach, either in capsules or as an emulsion with almonds or gum tragacanth, and this, after a few hours, should be followed by a dose of castor oil, the purgative effect of which will discharge the worm.

*Fetor* is applied technically to offensive odours arising from decomposition of any kind. Foetid breath has usually some connection with disease in the air passages. The most offensive odour arising from this cause is due to an ulcerated condition of the mucous membrane and spongy bones of the nares. Fetor of the breath may also be caused by decayed teeth and certain affections of the stomach. Fetor arising from the feet is always due to the development of a micro-organism which produces fermentation of the sweat. Antiseptics are the only useful remedy for fetor, whether it arises from the breath or any other cause; those most applicable are—chlorine, charcoal, carbolic acid, and hyposulphite of soda.

*Fever* is that condition of the body in which the temperature is elevated, the pulse quickened, and where there is persistent thirst and general functional disorder. Fever may arise from various causes, such as blood poisoning, chill, or specific infection, but it will invariably be found that the actual cause of fever is some morbid material circulating within the blood.

*Fevers* comprise a large number of diseases, such as typhus, typhoid, relapsing fever, yellow fever, intermittent fever or ague and all the zymotic diseases. See special articles.

*Fibrine* is a solid or semi-solid matter contained within the blood clot. It is a peculiar substance closely allied in composition to muscular fibre, and is made up by the combined action of two constituents of the blood, viz., the liquor sanguinis and globuline. The peculiar vital action which is set up in these two substances only takes place when they are brought into contact with some foreign body, which would appear to excite the latent power contained within the blood to coagulate.

*Fibula* is the small bone of the leg.

*Figs* are a most wholesome, nutritious fruit, and very useful where constipation exists. The pulp of the fig is the only part of the fruit which should be eaten if it has not been previously stewed. If properly cooked, however, the whole may be eaten with advantage.

*Fingers*, from their constant exposure and uses to which they are applied, are specially liable to accident and disease. They may be fractured, dislocated, burnt, or bruised, and may be attacked by deep-seated suppuration, which is termed Whitlow, or be chapped by the effects of cold; all of which are treated under their special headings.

*Fistula* is an abnormal passage between some internal organ and the skin. The term is most generally applied to a canal which is formed between the bowel and the skin. It is usually the result of an abscess which has formed in the neighbourhood of the anus, and which has burrowed its way into the gut as well as to the surface. It is invariably an indication of poor health, and gives considerable pain. The only remedy is to lay the false passage open in its entirety, and permit the wound to heal from the bottom. Fistulous openings may occur in the cheek, in the neighbourhood of the eye, and these are due to false passages being formed from the salivary and lachrymal ducts.

*Fits* is the term applied to any convulsion or spasmodic seizure, such as epilepsy, hysteria, and convulsions generally. These may occur at any period of life.

*Flannel* is a woollen fabric, without which no one is perfectly clothed. Every man, woman, and child should wear flannel next the skin, especially in a variable climate like ours. It not only gives warmth, but permits of free ventilation of the skin, and absorption and elimination of the perspiration. In this way the skin is kept in healthy action, and thereby the temperature of the body regulated : thus there is less liability to cold when flannel is worn than there is when the body is only clothed with cotton or linen material.

*Flatulence*, popularly termed Wind in the Stomach, is a collection of gas generated in the stomach and bowels, and in every instance is the result of indigestion. The badly digested mass becomes decomposed by fermentation, giving rise to acidity and a gas which we call Flatulence. The most important measures to adopt in this disorder are to prevent its formation by attention to the diet, and promote a healthy condition of the stomach. The foods which conduce to the formation of flatulence are—over-infused tea, soups, butcher meat which is boiled or stewed, and other articles which are well known to be indigestible. Perhaps the best remedy for flatulence, as a general rule, is charcoal, which has the power not only of absorbing the gas, but which also acts as a destructive agent upon the ferment. When flatulence proceeds to such an extent as to produce distention of the stomach and bowels, it may be the cause of very considerable inconvenience, by interfering with the free movements of the chest. Thus, breathlessness and palpitation are frequent concomitants of flatulent distention. If the flatulence accumulates in large quantities in the lower bowel, great relief may be obtained by an enema containing turpentine one ounce, castor oil two ounces, the yolk of one egg, and a pint of thin gruel, all switched together and injected into the bowel. This enema may be retained quite comfortably for four or five hours.

*Flesh* is the muscular substance of the animal body. All the muscular tissues come under this term, viz., the muscles of the limbs, body, heart, and womb.

*Flooding* is the term applied to profuse hæmorrhage from the womb. It may occur after the child-birth in abortions at the menstrual periods, or be continuous, in which latter case it is usually due to the presence of some unhealthy growth in the womb itself. In every instance where an undue loss of blood takes place from the womb no time should be lost in taking the advice of a physician who has given diseases of women his special attention, as an enormous amount of ignorance prevails amongst general practitioners on this important subject.

*Fomentation* is the most useful, and at the same time simple, method of applying moist heat to any part of the body. It is most efficacious in relieving spasmodic affections of the abdomen, also in inflammatory affections in any part of the body. The proper method of making and applying a fomentation is to fold about six plies of flannel and place this on a towel laid over a wash-hand basin ; the flannel should then be saturated with boiling water and enclosed in a towel, two people being employed in wringing out the redundant moisture. The fomentation should then be spread out, and, if it is to be applied to a part where there is considerable pain, it may be, with great advantage, sprinkled over with laudanum. It should then be applied as hot as the patient can bear it, and covered over with several layers of dry flannel so as to retain its heat. Another very convenient way of applying fomentations is to take a hot-water india-rubber bag, half fill this with boiling water, and expel all the air from the bag before screwing on the top ; this enables the bag to apply itself thoroughly to the part to be acted upon. Two or three plies of flannel should then be wrung out of warm water, laid over the part, and covered by the hot-water bag. A fomentation of this nature will retain

its heat much longer than when composed simply of flannel.

*Food*, which is essential to the living body, ought to be partaken of at regular intervals, and always with deliberation. A meal should never be hurried over, but thoroughly masticated and mixed with the saliva before it passes into the stomach. It is a mistake to partake of too much fluid during the process of mastication; in fact, these should always be left to be imbibed after the solid portion of the meal has been eaten. The more simple the diet is, the greater is the prospect of health to the individual, and it is a well-known fact that we eat far more, as a rule, than the body requires for nourishment. Over-indulgence in eating is quite as pernicious as over-indulgence in alcohol, although its effects at the moment are not so apparent. Temperance in all things is the proper rule to follow, and my own observation teaches me that those who are the strongest advocates of total abstinence, as applied to alcoholic drinks, are the very individuals who eat most inordinately, and in this way injure themselves much more than if they were temperate in both eating and drinking. Both animal food and vegetables should be eaten fresh if possible, as many dangers attend the preservation of edibles, and numerous instances are on record of poisoning which has been distinctly traced to the consumption of tinned meats and vegetables.

*Forearm* is that portion of the arm extending from the elbow to the wrist. It is composed of two bones, the radius and ulna. The wrist is articulated with the forearm by the radius, which enables the hand to rotate.

*Fractures* of bones are not at all uncommon occurrences. When the fractured ends of the bone do not protrude through the flesh and skin, it is termed a simple fracture; when the fracture has resulted in a shattering of the bone, so that it is made up of several broken pieces, it is said to be comminuted; when the fractured ends protrude through

the skin, it is termed a compound fracture. The great point to attend to in fractures is, to endeavour to prevent movement in the injured bone until surgical assistance arrives, so that the broken pieces may be put into position, or set, and kept in that position by means of suitable apparatus. If it is necessary to move the patient at all, the greatest precautions should be taken against altering the position of the limb. This can be done by supporting it on any convenient apparatus, such as a shutter. Should the fracture be compound, and a considerable time likely to elapse before a surgeon can be obtained, it would be a wise precaution to keep it covered by cloths wrung out of a solution of carbolic acid in water, with a view to prevent the entrance of micro-organisms, and thus guard against suppuration. A fracture can always be distinguished from a sprain or other injury by the sensation which is produced when the two fragments are moved and rub against each other. This sensation is called crepitation. As a rule, fractures are accompanied by considerable swelling in the neighbourhood of the injury, in consequence of the laceration which is produced in the tissues surrounding them ; and in fracture of the rib (see *Emphysema*) we may have swelling all over the body, in consequence of fragments of the rib having injured the lung, thus permitting air to penetrate from that organ into the cellular tissue of the body.

*Freckles*, which are so common, especially on children of fair complexion, are due to an accumulation of pigment in the particular parts affected, and are induced by exposure to the sun. They are not amenable to treatment, but they usually disappear as maturity is attained. The following ointment is said to do much good in this disfigurement:—White precipitate ointment, half an ounce; subnitrate of bismuth, three and a half drachms ; glycerine to make four ounces. Mix. To be applied every other night.

*Friction*, or Rubbing a portion or the whole of the body, is conducive to health, especially so when this is followed by bathing. Rubbing must be distinguished from properly applied massage, as frequently much injury is done to this useful method of treating certain diseases by ignorantly supposing it to be merely rubbing. Rubbing is useful where there is stiffness of any muscle or joint, and may be conjoined with the inunction of oil over the affected tissues. Rubbing the chest with certain counter-irritants is frequently employed in the treatment of bronchitis, spasmodic croup, asthma, etc. The method of treating bronchitis and spasmodic croup in children, by rubbing in a liniment containing both slight counter-irritating and soothing properties, is especially to be commended.

*Fruits* should enter into the dietary of every one as far as possible, and if eaten before breakfast are very beneficial where there is a tendency to constipation. Besides this, they are useful in purifying the blood.

*Frying* is a method of cooking butcher meat which should never be resorted to, as thereby the meat is rendered heavy and indigestible. Fried ham, bacon, and fish, however, are not rendered indigestible by this mode of cooking—that is to say, if it is properly conducted.

*Fumigation* should be thoroughly carried out during the progress of contagious diseases, and for some time after convalescence has been established. The most powerful antiseptics to employ in these circumstances are carbolic acid and sulphur.

*Functional Disorder* of any organ of the body is to be distinguished from organic disease, by the fact that it is simply due to a disordered condition which can be rectified; whereas, in organic disease an actual change has taken place in the tissues affected, and cannot be restored by nature's efforts—*e.g.*, dyspepsia, or indigestion, is a functional disorder of the stomach, while an ulcer or a

thickening of any portion of the walls of the stomach are organic diseases.

*Fur* as an article of dress should always be loose fitting, so that ventilation can be easily obtained; otherwise a tight-fitting garment made of fur is highly injurious, in consequence of the perspiration being unable to pass off as it is secreted by the skin.

*Gall Bladder* is the receptacle of the secretion of the liver which we call bile. It lies beneath the right lobe of the liver, and is pear-shaped. From the apex of this bladder there proceeds a short duct which joins a similar duct from the liver, and then forms what is known as the common bile duct, which empties itself into the duodenum.

*Gall-Stones* are composed of inspissated bile, and contain a considerable quantity of one of the crystalline ingredients of this fluid, called cholesterine. They vary very much in size, and according to their dimensions give rise to symptoms more or less severe. Sometimes they accumulate in very large numbers within the gall bladder, and at times produce considerable swelling of this organ, so much so that it not unfrequently is necessary to perform a surgical operation for their removal. When they become impacted within the gall duct, they give rise to most excruciating spasmodic pain, and, in consequence of the bile not getting free exit, jaundice is liable to result. When gall-stones are present in the gall duct, the pain may be very much soothed by the frequent application of hot fomentations over which laudanum has been freely sprinkled. Opiates internally are also called for, and these may be repeated at intervals of two or three hours. If the pain continues, the hypodermic injection of morphia is perhaps the best means of giving relief. When there is a tendency to gall-stones, it is most imperative that a daily evacuation of the bowels be obtained and the diet strictly regulated, so as to facilitate the action of the liver as much as possible. The best purgative to administer in these

circumstances is olive oil, in table-spoonful doses, frequently repeated.

*Galls*, or Gall Nuts, are excrescences occurring upon the twigs of a certain species of oak. These are due to an insect which deposits its eggs within the bark, and causes an exudation to take place upon the stem of the tree. They come mostly from the shores of the Levant, and also from Asia. Galls are powerful astringents, and from them is extracted gallanic and tannic acid. Powdered galls, in combination with opium, are largely used in the form of ointment in the treatment of haemorrhoids, or piles. This ointment, however, has been very much superseded of late by an ointment made of hamamelis combined with opium. Gallanic or tannic acid is the best antidote to poisoning by antimony, strychnine, and morphia, on account of the fact that it renders these substances less soluble. Tannin mixed with glycerine is frequently employed as an application to relaxed throats.

*Game* are wild animals which depend for their existence upon their flight or speed. The powerful muscular exercise which they are thus compelled to develop has the effect of rendering their flesh much more nutritious and easily digested than that of animals which are brought up artificially. The manner in which game is kept before cooking also adds to its digestibility, but it is highly desirable when decomposition has taken place, even to a very slight extent, that they should be most thoroughly cooked before being brought to the table.

*Ganglion* is an anatomical term applied to those minute nerve centres which abound throughout the body. The term is also applied in surgery to those elastic swellings which appear generally on the wrist, and sometimes on the top of the foot also. They are about the size of a hazel nut, and when the cyst walls become thin they can be easily ruptured by pressure, after which the fluid which was contained in them disappears by absorption.

*Gangrene* is a term applied to the death of the tissues, and is indicated by the fact that the parts become black in colour, void of sensation, and, in short, dead. It is always due to some interference with the circulation, and may arise from a direct obstruction in the main artery of the limb or by a thickening of the walls of the artery, preventing a proper supply of blood being carried to the part. When gangrene occurs in young people it is generally the result of the artery being blocked by a blood clot, or very rarely, it may be due to a nervous contraction of an artery, when it is usually symmetrical. When it occurs in old people it is the result of a diseased condition of the coats of the arteries, which become thickened in consequence. Senile gangrene commences at the toes, and may be set up by some very trifling injury to the parts; hence it is important in the cutting of the toe nails or paring of corns in elderly people that the greatest care be taken not to injure the surrounding tissues. The disease spreads up the limb, and in some instances may reach the thigh, but before this occurs it is usually fatal. Sometimes what is termed the line of demarcation may form, that is to say, the disease process ceases at a certain point, in consequence of the blood current not being interfered with higher up. The only thing that can be done in this disease is to amputate the limb beyond the disease. See *Mortification*.

*Gaping*, or Yawning, is a peculiar movement of the diaphragm, and usually indicates exhaustion both of the nervous and muscular systems. It is a movement which is very readily imitated by those witnessing it. The only danger that arises from yawning is, that if the jaws are opened unduly, the lower jaw may become dislocated, when the chin becomes jutted very much forward and the teeth clenched close together. Great care should be taken in reducing this dislocation to protect the thumbs, which are placed within the mouth, from being bitten by the

sudden closure of the jaws when the dislocation is removed.

*Gargles* are, practically, lotions applied to the throat; they may be astringent, antiseptic, or soothing. Astringent gargles combined with an antiseptic are useful in all inflammatory affections of the throat in their early stages. If there is much accumulation of mucus in the throat, then a gargle of hot water, in which is dissolved a small quantity of bi-carbonate of soda, acts as a very soothing agent. Chlorate of potash in solution is also a most useful gargle, and when there are ulcerated patches upon the throat this solution of chlorate of potash combined with borax is very efficacious in removing the unhealthy deposits. A good all-round gargle for throat affections is twenty-five to thirty drops of sulphurous acid mixed with a sherry glassful of warm water and used frequently. Alum dissolved in water makes a good astringent gargle, but the most useful astringent to employ in such circumstances is the glycerine of tannin mixed with water.

*Gastric Juice* is an acid secretion of the stomach, and is produced by the gastric glands, which are stimulated when food is taken into the stomach. Its special duty is the solution of albuminous compounds. It has no effect upon gelatine, as has been erroneously stated, and therefore there is no nutrition in this substance. The acid of gastric juice is abstracted from the salt which is taken with food. It contains also an albuminoid substance called peptone, which is also derived from the food.

*Gelatine* should never be partaken of as an article of diet, for the cogent reason that it simply loads the stomach, and no nourishment is derived from it. It is especially injurious to people suffering from indigestion, and it seems absurd to recommend it, as is so frequently done in the sick room.

*Germs of Disease*.—A great amount of information has been obtained with regard to these minute organisms

during the past few years. It is now pretty well established that every disease which the human frame suffers from is due to the invasion of a specific germ or microbe. Some of these find entrance to the system through the breathing apparatus, but in the majority of instances the channel is the mouth ; in short, disease as a rule enters the system by being swallowed either in the saliva, or in the process of drinking or eating. See special articles.

*Gestation* is that period which is required for the development of the living child, from conception to the end of pregnancy.

*Giddiness*—in medical language “Vertigo”—culminates in a loss of balancing power with a sensation of reeling, and may terminate in the individual falling to the ground. It is generally attributed to an abnormal supply of blood to the head, whereas it is most frequently caused by a deficiency of blood in the cranium, or anæmia of the brain. Of course, when due to anæmia it is not difficult to comprehend that the brain should lose its functional power, as it is temporarily deprived of its nourishment, and therefore acts imperfectly. As soon, however, as the giddiness results in the patient taking a recumbent posture, the head ceases to be the highest point to which the blood is propelled, and consequently the blood is driven with greater facility to the brain, and thus the giddiness passes away. A weak action of the heart, in consequence of its imperfectly propelling the blood through the cerebral vessels, is a frequent cause of giddiness. Flatulent distension of the stomach, by incommoding the heart's action, is also a potent cause of this disagreeable sensation. Giddiness frequently results when people suddenly rise from the horizontal posture, and this is due entirely to the fact that the circulation in the brain is temporarily interfered with by the sudden change of posture.

*Glanders* is that malignant disease which attacks horses, and may be transmitted to man by inoculation through

erosions of the skin, so that very great care should be exercised in handling horses which suffer from this disease. As glanders is always fatal when it attacks the horse, the ass, or the mule, the animals should be immediately destroyed when it is recognised, and buried immediately afterwards at a considerable depth.

*Glands* are those bodies which filter the fluids of the human body, and thus keep the blood pure. Their office is the secretion of various substances—*e.g.*, the kidneys which secrete urine, the liver which secretes bile, the lachrymal gland which secretes tears, the salivary gland which secretes saliva, the gastric gland which secretes gastric juice, etc., etc. These glands are all more or less subject to disease, which varies in its character just as the secretions vary in theirs. When the mesenteric glands are affected this is generally due to some tubercular deposit. This also, as a rule, is the cause of disease of the glands of the neck. In such circumstances it will be found that muriate of calcium given after food has a most beneficial effect; indeed, it seems to be the most potent remedy in glandular disease wherever this may be situated.

*Gluten* is the nitrogenous principle which exists in every kind of grain, but more abundantly in oats and wheat than in barley. It is closely allied in its composition to the flesh of animals, and is therefore highly nutritious.

*Glycerine* is a substance which enters into composition with fats and oils, whether these belong to the vegetable or animal kingdom. In combination with oleic acid it would seem to be essential to the formation of soap. It has been extensively used both in the arts and in medicine. In the arts it enters into that well-known and powerful explosive which we call nitro-glycerine; in medicine it is principally used as an application, diluted either with water or fat, to the skin to produce an emollient effect. Internally, it has proved a useful adjunct to cod-liver oil in pulmonary consumption. It has also a slightly

laxative effect upon the bowels, and is frequently employed in catarrh both of the bronchial and alimentary canals. It has a powerful affinity for water, and is therefore employed on tampons to reduce congestion and affections of the womb. In combination with borax it is applied in aphtha or thrush, which frequently develops on the tongue and throat of children suffering from acidity of the stomach. It is also combined with tannin, and in that form is a popular remedy for relaxed sore throat, when, if it is frequently applied with a camel hair pencil, it produces a most beneficial astringent effect. Glycerine is also a popular solvent of many substances, such as carbolic acid. Injected into the rectum—a tea-spoonful at a time—it is useful in constipation.

*Goitre* is an affection of the thyroid gland, which is induced by drinking certain waters which contain an excess of lime in solution. Its popular name is Derbyshire Neck. The most potent and most highly recommended remedy for goitre is iodine, both internally and applied to the swelling as an external application. Sometimes cysts form within the swollen gland and enlarge it to an enormous extent, when it is termed Bronchocele.

*Gout* is not so much a disease of the blood as a disease in the blood. It is a hereditary disease also, or perhaps it would be more accurate to state that heredity makes one more liable to it if there is indiscretion as to diet on the part of individuals whose forefathers have been the victims of this disease. Its foundation in every case is in the digestive apparatus. If the digestion is good, and the bowels in a healthy condition, no one need be afraid of gout. The natural outlet of the poison of gout is the kidneys, but when uric acid exists to an undue extent within the blood, the kidneys fail to eliminate; it is then liable to deposit itself in some locality, usually in a joint, when pain, accompanied by active inflammation, results. This is designated the explosion of gout. As this disease

is one of such importance, it would be out of the question to go into its pathology and treatment with sufficient elaboration to enable one to attempt its treatment without the aid of a medical man ; some general hints, however, may be useful, and amongst these the most important is, to abstain from all articles of diet which are difficult of digestion—in short, to confine one's self to a diet of the lightest kind, such as milk food, chicken, fish, oysters, etc., while as an application to the painful part a solution of three drachms of menthol in half an ounce of chloroform and one ounce and a half of belladonna liniment will prove beneficial. Another application which has come into use very recently the author has found most efficacious ; it is composed of Betul-ol, two ounces, in which are dissolved one drachm of guaiacol and one drachm of menthol ; a little of this should be rubbed in over the affected part night and morning, after which the limb should be wrapped up in flannel, while, as an internal remedy, lycetol should be given in 10-grain doses every four hours. As an internal remedy, probably the most useful is the benzoate of lithia in combination with small doses of tincture of colchicum given after food three times a day, while a course of treatment at Aix-les-Bains will prove of immense service. There is no doubt that gout and rheumatism are very closely allied to each other, but gout would appear to be a more specific disease than rheumatism, though possibly both are caused by poisons of a similar nature within the blood.

*Granulations* are those small red granular points which fill up and promote the healing of a sore. It is a well-known fact that if no granulations exist the sore can never heal ; the object therefore of the surgeon is invariably to promote granulation. Sometimes, however, the growth of the granulations proceeds too far, and this is termed proud flesh, when healing is thereby arrested. In such circumstances the granulation surface requires to be cauterised

with a view to reducing the redundancy, when healing will succeed.

*Gravel* is the term applied to that condition of the urine when it is highly acid and crystals of uric acid or particles of urate of soda, lime, and ammonia became suspended within this fluid. Gravel is invariably the outcome of dyspepsia and a highly acid condition of the blood, and is frequently associated with rheumatism and gout. The best remedy for gravel is bi-carbonate of potash or lithia.

*Green Sickness* is technically termed Chlorosis, and is a form of anaemia which frequently attacks young girls who have been long the victims of obstinate constipation. Its connection with puberty has frequently misled not only the general public but physicians themselves, as it has been customary to associate it with the menstrual functions improperly performed. In every instance it will be found that chlorosis takes its origin in constipation. Refer to article at the commencement of the volume.

*Gregory's Powder* is composed of one part ginger, two parts rhubarb, and four parts calcined magnesia. It is one of the best stomachics combined with a purgative action which we possess. It also acts as an antacid and tonic to the alimentary canal. It is probably as safe a medicine as can be taken when a gentle aperient action is desired. If a few drops of brandy, whisky, or eau-de-Cologne are put in the water in which it is mixed, the disagreeable taste will be very much modified.

*Griping* is a pain which is produced by spasmodic contraction of the muscular coat of some portion of the intestine, and arises either from the effects of cold or from the presence of some foreign irritating matter within the alimentary canal. Undigested food, for instance, passing into the intestine frequently gives rise to colic, which is simply an aggravated form of griping. Certain medicines, such as aloes, colocynth, or scammony, when taken without the addition of some carminative or anodyne,

produce severe griping ; it is therefore highly desirable that purgative medicines possessing such irritating properties should never be prescribed without being combined with some anodyne or carminative, or with both.

*Grippe* is the French name for Influenza, which recently has become anglicised.

*Growth*, or increase in the size of the body as a whole, or any part of it, is largely dependent upon the development of bone, as, if the bony skeleton does not lengthen and extend, growth cannot possibly take place. It is therefore highly desirable when there is a tendency to dwarfing in any family that particular attention be paid to the dieting of children, always having in view the necessity of supplying such kinds of aliment as promote the growth and development of the osseous tissue. It is also highly desirable during the progress of youth towards manhood that assimilation be thoroughly assured. This can frequently be aided very largely by the judicious administration of the muriate of calcium, either with or immediately after meals. I am perfectly satisfied that it is quite unnecessary that people of a small stature should ever exist.

*Guaiac Gum* is a resinous material obtained from a tree which is native to the West Indies. Guaiac is one of the most potent remedies in quinsey that we possess, and its efficacy is very much enhanced by having it combined with chlorate of potash and salicine. In the same way it is useful in certain rheumatic affections, and may be prescribed either in the form of tincture, or emulsion, or in tabloids.

*Guinea Worm* is a parasite which affects principally the feet and lower part of the legs. It is a long thin worm which burrows under the skin and locates itself there, giving rise to a species of painful abscess. Its head usually protrudes through an aperture resembling very much the point of a boil. The only treatment is, to seize the head of the worm

when it shows itself and gradually draw it out, great care being taken that it is not broken in the process, as, if it is broken, the irritation is very liable to be increased.

*Gullet*, or *Œsophagus*, is the tube which leads from the mouth into the stomach. It is liable to be injured when caustic materials, such as carbolic acid, vitriol, or any other caustic materials, are swallowed. It is liable also to spasm, to stricture, and diseases of a more malignant type, such as cancer. When food is impacted in the *œsophagus* very considerable difficulty may often be experienced in either pushing it down or drawing it up into the mouth again. If the food actually passes into the *œsophagus* it does not produce choking, but naturally very unpleasant sensations are experienced until it finds its way into the stomach or is brought back again into the mouth.

*Gums*.—The Gums are composed of dense mucous membrane, which covers the alveoli, or the bony sockets, of the teeth. They are liable to be affected by such diseases as scurvy, lead poisoning, and want of cleanliness. Sometimes the gums bleed very freely, but this, as a rule, is due to the effect of disease or to neglect of the teeth. The gums are also frequently affected in children, aphtha being the most common disease of this class, but not unfrequently this may develop into small ulcers which sometimes prove difficult to heal. The best application for disease of the gums, from whatever cause it may arise, is a lotion containing carbolic acid, chlorate of potash, and tannin in solution with water.

*Gum Boils* are abscesses connected with teeth which are decaying at the roots. Their origin in reality is in the alveolar process, or tooth socket; hence they give rise to intense pain in consequence of the tension which they produce. When a gum boil has once occurred it will be very liable to develop again on little provocation if the tooth is not removed.

*Gunshot Wounds* do not always occur where medical

assistance can be speedily obtained ; it is therefore advisable to endeavour to disinfect the wound as rapidly as possible, and this may be accomplished by mixing one part of carbolic acid with forty of water and injecting it into the wound, and afterwards covering the aperture with a pad soaked in this solution.

*Gymnastics* are exercises which should always be regularly practised with a view to the developing of the muscles of certain parts and the physical energies of these parts. It is wonderful what can be obtained by the judicious employment of gymnastics, both in developing the chest and limbs. Massage is a form of gymnastics which is practised by a second party. By its means muscles which have been rendered almost useless by disease may frequently be restored to a fair amount of health, and general nourishment of the body can by this means be promoted to an extraordinary extent. Massage, moreover, produces a healthier action of the nervous system, and in certain diseases where exercise cannot be taken in consequence of the weakness and pain which it produces, massage is a most efficient agent in removing these conditions. Swimming is another very popular form of gymnastics ; no other exercise brings so many muscles into play as swimming does ; therefore, beyond its utility as a life-saving means, it is an excellent method of carrying out a thorough system of gymnastics.

*Habit* is one of those peculiar movements in the body which appear to be carried on without the exercise of the will. Some of these habits are very much to be deprecated, and should be fought against at every opportunity until they are overcome. It has been said that habit is second nature, but this should in every instance be discarded as a truth. Amongst habits which are very disgusting, to say the least of them, is that constant effort to clear the throat, spitting, grinding the teeth, jerking the head, and biting of the finger nails.

*Hæmatemesis*, or Vomiting of Blood, is applied to that particular form of bleeding which takes place from the stomach in contra-distinction to *hæmoptysis*, which is bleeding from the lungs. Frequently great alarm is experienced by what would appear to be vomiting of blood, when in reality the blood has been swallowed, such as in bleeding of the posterior nares and bleeding from the gums. It is a curious fact that the stomach will not retain fresh blood, but immediately ejects it. Sometimes the blood becomes partly digested, in which circumstances its appearance is completely altered and resembles coffee grounds; this in every instance may be taken as a diagnostic feature of the blood having come from the stomach.

*Hæmaturia* is blood passing along with the urine. It may proceed from the kidneys or from the bladder. If from the former the urine assumes a smoky appearance, whereas if it comes from the bladder it is generally bright in colour.

*Hæmoptysis*, as has been stated in the article on *Hæmatemesis*, is bleeding from the lungs, and is generally a symptom of great gravity, as in the majority of instances it is an indication of consumptive disease which has produced ulceration of the blood-vessels of the lungs.

*Hæmorrhage* is an escape of blood from any vessel, and is caused either by direct injury or from the effects of disease. If the bleeding orifices are within reach, then the proper method to adopt with a view to check it is, to apply pressure until the arrival of the surgeon, who will be able to pick up the blood-vessels and tie them. If the *hæmorrhage* is internal, then it may be arrested by the administration of astringent remedies, such as gallic acid, dilute sulphuric acid, acetate of lead, or those remedies which act directly upon the blood-vessels, as ergotine and hamamelis. The administration of ice is also usefully employed in such emergencies. If, however, as frequently

happens, the hæmorrhage is the result of a sluggish action of the heart, which interferes with the complete circulation in the veins, then cardiac tonics, such as digitalis and strophanthus, will be found of very great service. Bleeding from the nose is perhaps one of the most common of what we might designate internal hæmorrhages ; in such circumstances holding up the arms will be beneficial, and the application of cold to the spine is also a popular and useful means of arresting the bleeding. It may, however, be necessary to plug the nares, which can be done by pieces of cotton attached to thread and soaked in an astringent solution, which are pushed up the nostrils.

*Hair* in many ways resembles a plant, as it grows from a follicle within the skin, and continues to grow as long as this follicle is in a healthy condition. Its mode of growth is very similar to that of the hyacinth. It is composed of a horny tissue resembling in every particular of its composition that of the cuticle, or scarf skin. Baldness is always due to atrophy of the follicle which produces the hair. These follicles are supplied with a pair of minute glands, which secrete the greasy matter supplying the hair. After many acute diseases the nutrition of the hair becomes so interfered with that it is liable to fall off. Debility also so interferes with the maturity of the hair that it is liable to split or become forked. The colour of the hair is due to a pigment contained within the minute tube which permeates its centre. The natural colour of the hair therefore is white, and it is due to the deficiency of this pigment that the hair becomes blanched as years progress. Severe mental emotion may so effect the colouring matter of the hair as to make it turn white in a very short space of time. Hair, as is well known, is liable to grow on places where it is very unsightly, such as on the faces of women. A popular and, I believe, a very efficient means of removing superfluous hair is in the application of the brine which accumulates in herring barrels. This,

although it produces a temporary rash on being applied, has often the effect of completely destroying the hair follicles. The application of arsenic has also been resorted to for the destruction of hair follicles, but this being a dangerous remedy is not to be advocated. Electricity has also been employed for this purpose, as has also the introduction of a hot wire into the cavity of the follicle.

*Hand.*—This marvellous agent of the human mind is, in consequence of exposure, necessarily liable to injury. If this should occur at a distance from medical aid, the first thing to be done is to endeavour to stop the bleeding, and at the same time apply a 3 to 5 per cent. solution of carbolic acid on lint. It is highly desirable that as much of the hand be preserved as possible, even a single finger, and certainly the thumb in conjunction with this, if it is at all within the range of possibility. See *Artery, Dislocation, Wounds, Contusions, etc.*

*Hanging*, or suspension of the body by the neck, causes death in three distinct ways. First, it may cause fracture of the cervical vertebra; secondly, suffocation by contracting the wind-pipe; thirdly, by pressure upon the veins causing effusion within the brain. If the former has occurred, nothing can be done to resuscitate the individual, whereas if death has not supervened from the asphyxia produced by pressure, the patient may recover; but if rupture has taken place in any of the blood-vessels of the brain, the probability of restoring the individual will be very much lessened.

*Hare-Lip*, or Cleft-lip, is a congenital deformity due to complete union not having been effected of the two halves of the body. It is frequently associated with cleft palate, and may extend through the whole roof of the mouth. It can be remedied by surgical measures, which should be resorted to at as early a date as possible.

*Hay Asthma*, or Hay Fever, is a most troublesome disease in consequence of its intractable nature. It is

difficult to say what it is positively due to, but the popular belief is that it arises from the inhalation of the pollen of certain grasses. The irritation which is its direct cause may also be produced by the inhalation of certain powders, such as ipecacuanha, and I have known the odour of the rose positively give rise to this disorder. The symptoms are suffusion of the eyes, violent sneezing, and active discharge from the nostrils, with an irritating cough accompanied by severe headache. Sometimes severe spasm accompanies the disease, resembling in its character that of asthma. The treatment which is most efficacious is, to remove the individual from the cause of irritation ; at the same time many remedial agents are of considerable value, such as the inhalation of carbolic acid vapour, the insufflation of snuff containing cocaine or opium, and probably the best preventative is a long continued course of arsenic with Archangel tar, which seems to have a beneficial effect upon the mucous membrane, which is the seat of the disease.

*Hazeline* is a clear fluid distilled from the fresh twigs of the hamamelis virginica, or witch hazel. It is a powerful astringent, and has a special action upon enlarged veins ; hence it is valuable in the treatment of haemorrhoids, which are intrinsically a varicose condition of the veins of the rectum. It is also useful as an external application in varicose veins of the leg, bruises, and sprains. Given internally, it seems to act upon the venous system where hemorrhage or enlargement has taken place.

*Headache* is an affection which a great many people suffer from, and its causes are very various. Headache may be due to indigestion, nervous prostration, neuralgia, congestion of the blood-vessels, and constipation. It is frequently symptomatic of disease, and is a constant symptom in febrile affections. Of course, the treatment depends entirely upon the cause, but it will be found that nervous and neuralgic headaches can be very quickly

removed by the administration of phenacetin in 10-grain doses, combined with two grains of caffein. Antipyrine has been frequently prescribed for the relief of headache, but this drug should be taken with the greatest caution, as its effects upon the heart is oftentimes very deleterious. When headache is of frequent occurrence and persistent, particular attention should be paid to the digestive apparatus and the condition of the bowels. Hardly anyone suffers from headache whose bowels are in a healthy condition. See *Constipation*. If the headaches are of a neuralgic origin this is invariably associated with a lowered condition of the vitality; tonic treatment must therefore be persevered in for some time, and possibly it may be necessary to send the patient away for change of air and scene, together with complete rest from his ordinary vocation. Neuralgic headaches can generally be differentiated from those proceeding from another cause, from the fact that they are usually confined to one side of the head, and are paroxysmal in their character, whereas a headache arising from general nervous causes is usually felt throughout the entire head, and frequently gives the sensation as if the top of the head were being lifted off, or of severe weight and pressing down upon the top of the cranium.

*Heart*, the central organ of circulation, is placed obliquely in the chest, with its apex situated behind the space between the fifth and sixth ribs, from an inch and a half to two inches below the left nipple. The base of the organ is placed upwards, and to the right side of the apex. The heart may be computed to be about the size of the closed fist of the individual. It is contained in its own proper membranous bag, called the pericardium, which in health is lined by an extremely smooth membrane, lubricated very much in the same manner as the joints are lubricated by a serous fluid. The heart is divided into four cavities, viz., the right and left auricle, right and left ventricle, and is

composed of a series of layers of muscles arranged in such a manner as to give the greatest power possible in contraction and expansion. The cavities communicate with each other by orifices, which are provided with valves to maintain the circulation only in one direction. The aorta, or main artery, which conveys the blood from the left ventricle to the general circulation, is also provided with valves at its junction with the heart, as also are the apertures by which the venous blood reaches the heart and the orifices through which the blood is transmitted to and from the pulmonary circulation. See *Circulation*.

*Heart-Burn* is a burning acrid sensation felt both in the stomach and at the top of the gullet. It is usually accompanied by an undue flow of water into the mouth, called water-brash, and is a symptom of acid dyspepsia. It is a frequent concomitant of pregnancy, and in such circumstances often causes very considerable discomfort. It can be temporarily relieved by the administration of carbonate of potash, soda, and lime, these acting as neutralising agents to the acid. It is not, however, expedient to have constant recourse to these remedies, but in every instance the diet should be arranged so as to avoid those articles which are found to be prejudicial in the circumstances, and with a view to strengthening the stomach eight grains of bismuth combined with ten grains of ingluvin may be given three times a day just before meals.

*Heat*, or Temperature of the Body, should be about 98·6 F. in the normal state. The heat of the body invariably rises when there is febrile disturbance, and in consequence of this the muscular tissue undergoes disintegration. As is well known, heat is essential to vitality, and animals accustomed to one temperature are unable to retain their health in another. Excess of heat is almost more difficult to stand than excess of cold, and sudden transitions from heat to cold are well-known factors in the production of disease. If a person is exposed to the heat of the sun for

a prolonged period, sunstroke, which is simply congestion of the blood-vessels of the brain, is liable to occur, and may leave very disagreeable symptoms, if it does not immediately prove fatal. The skin of certain persons exposed to the strong rays of the sun is liable to an eruption called prickly heat. Heat is frequently employed in the treatment of disease, especially in the form of hot poultices and hot fomentations. Again, it is used in the Turkish bath as an invigorating agent, while as a hot bath it is employed in incipient febrile attacks with a view of promoting a healthy action of the skin. Were it not for the free perspiration which exposure to heat induces, the human frame would not be able to exist in certain climates, as by this means radiation takes place with great freedom and rapidity. The application of hot water or dry heat is very useful in causing contraction of the blood-vessels in cases of hemorrhage. Heat spots, as they are popularly called, are rarely the effects of heat, but generally of an impure condition of the blood. Refer to *Animal Heat, Fomentation, Poultices, etc.*

*Hectic*, or Hectic Fever, is that febrile condition which occurs in wasting disease, such as consumption. It is indicated by a bright red burning spot upon the wasted cheek of the patient, and always conveys the idea of impending death. It is generally accompanied by a condition of the skin varying from excessive dryness to profuse perspiration.

*Hemicrania* is that form of neuralgia which affects one side of the head. It may be relieved by phenacetin, quinine, guarana, galvanism, or other anti-neuralgic agents, but the great point is to endeavour by judicious nourishment, and stimulation if necessary, to restore the vitality of the individual. See *Headache*.

*Hemiplegia* is paralysis of one side of the body, due either to a rupture of a blood-vessel on the opposite side of the brain or to the blocking up of a blood-vessel on that

side by a clot which has proceeded from the heart. See *Paralysis*.

*Hemlock* is a well-known plant indigenous to the British Isles. The extract and tincture obtained from this source have a peculiar and beneficial sedative effect upon the nervous system, especially on the nerves of the pelvis; hence it is frequently employed by medical men where there is any irritation of the womb or ovaries causing a depressed, morbid, and irritable condition of the nervous system. Two grains of the extract combined with two and a half grains of valerianate of zinc in the form of pill is an excellent combination, if given forenoon and afternoon, where there is lowness of spirits and irritability of temper proceeding from a disordered condition of the sexual organs in women.

*Hepatic* is the term employed to denote circumstances connected with the liver or with the functions of that organ.

*Hepatitis* is inflammation of the liver.

*Hereditary Tendency* permeates every individual; hence disease and traits of character which affect the parent are transmitted to the offspring. Amongst the most plainly recognised maladies transmitted by heredity may be named, consumption or tuberculosis, cancer, syphilis, insanity, rheumatism, and gout. When, therefore, hereditary disease is known to exist it is most desirable that children so tainted should be well nourished and means taken to strengthen the constitution against the invasion of the specific disease or diseases which their parents may have developed.

*Hernia* is the term applied to that condition of the abdomen where the bowel protrudes through its walls, popularly known by the name of rupture. When hernia exists it is desirable to support the protruding portion of the bowel by means of a properly fitted truss.

*Herpes* is an inflammatory disease of the extremities of

certain nerves which produce an eruption, first of all containing a clear fluid which gradually becomes more opaque, and finally comes off as a crust. It frequently appears on the lips and cheek. Shingles, which is a form of herpes known as herpes zoster, as a rule makes its appearance upon the body, and is generally in connection with an intercostal nerve.

*Hiccup*, or Hiccough, is an intermitting spasmoid affection of the diaphragm, and is frequently due to indigestion. When, however, it occurs in the last stages of acute disease it is of great gravity, and frequently indicates a fatal termination. When hiccup occurs in ordinary health it generally arises from some irritating matter which has been taken into the stomach, and will usually pass off of its own accord.

*Hip Joint* is a ball and socket joint which is enclosed in a strong capsule. It is liable to dislocation and fracture within the capsule, and both these accidents require the immediate attention of a surgeon.

*Hip-Joint Disease*, or *Morbus Coxarius*, only affects children of a tuberculous habit. It is due to tubercular disease, either in the joint itself or in its immediate neighbourhood, and results in the formation of pus, which may burrow and find an outlet at a considerable distance from the joint. As a rule, the premonitory symptoms of hip-joint disease are felt in the knee in consequence of the disease affecting the trunks of certain nerves which terminate behind the knee joint. This disease has a most pernicious effect upon the joint, and may culminate in its complete destruction, when, of course, stiffness of the part ensues, if the patient should be fortunate enough to recover from the disease. When disease of the hip is in an incipient stage complete rest should be enjoined, and the limb should be kept extended by means of a weight attached to a cord running over a pulley at the foot of the bed, while the general health of the patient should

be carefully attended to, and muriate of calcium given regularly for several weeks at a time. There is not the slightest doubt that this medicine has a most beneficial effect in diseases of this nature. If an abscess has formed it must be evacuated, antiseptic precautions being taken so as to prevent the ingress of the germs of putrefaction. In some instances it may be necessary to cut down upon the disease and remove the dead bone, but if the disease has advanced further than to render this necessary, the prospects of the patient's recovery are very distant.

*Home Sickness* may be thought by some to be purely an imaginary disease, but in reality it may assume dimensions which become in some instances quite alarming. Depression of spirits and a falling away of the general health frequently occur, so that disease actually is the outcome of a longing for home and its surroundings. As a rule, this sickness passes away with the lapse of a little time, but in some cases nothing will give relief to the symptoms but removing the patient home.

*Homœopathy* is a system of treating disease founded by Hahnemann, but its principles are entirely fallacious. It is based upon the idea that like cures like, and that medicines by being triturated and diluted and then given in infinitesimal doses will act upon the human frame beneficially when it is prostrated by disease. There are certain individuals at the present day who profess to practice homœopathy, but this is only the means they adopt to obtain patients by playing upon their credulity while they at the same time perpetrate a gross deception. I speak only of those practitioners who profess to be homœopathists while they adopt the measures of the regular practitioner. It is a curious fact that you will never see a prescription from one of these homœopathists ; they take very good care to dispense their own medicines.

*Hooping Cough* is a curious disorder of a certain nerve, viz., the pneumogastric. This nerve supplies the stomach,

lungs, and larynx. It is a question whether the disease is primarily a stomach disorder, a lung disorder, or an affection of the larynx, or whether it is due to some congested condition of the nerve centre itself. Be this as it may, the cough, which is paroxysmal in its character, affects all the three organs to which the nerve is distributed: we have the cough proceeding from the lungs, the hoop which is a spasmodic affection of the larynx, and the vomiting which, of course, arises from the irritation of the stomach. Hooping cough commences apparently like an ordinary catarrh of the head, which seems to spread to the larynx and downwards towards the lungs. The cough at first is not paroxysmal, but speedily the paroxysms supervene after what is usually called a "fit" of coughing. The difficulties experienced by those suffering from hooping cough are:—An inability to inspire while the paroxysm prevails, as the cough is so very incessant, and when the cough is exhausted the prolonged draught of air passing through the spasmodically closed larynx gives rise to the peculiar hoop which is characteristic of the disease. As a rule, however, the paroxysm does not actually cease until free vomiting has taken place, when it will be observed that the contents of the stomach are largely mixed with a glairy mucous expectoration. While the expulsive cough is going on it would seem as if the child were on the point of suffocation—the face becomes swollen and livid, the veins of the neck and face turgid, and the eyes sometimes, in a severe paroxysm, have the appearance as if they would start out of their sockets; the child convulsively holds on to whatever object it can lay its hands upon, so as to obtain support during the paroxysm. Not unfrequently the congestion of the blood-vessels of the head is so great that rupture may take place from small twigs, either in the nose or eye, or possibly, as I have observed, within the brain itself. Bleeding at the nose, then, is not unfrequently a concomitant of hooping cough, while effusion of blood in

the white of the eye also occasionally occurs. The treatment of hooping cough consists, first of all, in careful attention to the bowels, especially in keeping the lower bowel empty, by enemata if necessary, rubbing the child's chest and abdomen night and morning with a liniment composed of equal parts of soap and opium combined with compound camphor and belladonna liniments. Many internal remedies have been advocated for this disorder. Amongst those which I have found most useful are—the iodide of silver given in  $\frac{1}{8}$  of a grain doses three times a day; the bromide of sodium in from 5 to 15-grain doses, according to the age of the child, three or four times a day; but perhaps the most energetic remedy is one which should only be prescribed under medical supervision, as it requires to be carefully watched during its administration, that is ouabain in  $\frac{1}{1000}$  to  $\frac{1}{500}$  of a grain doses. The greatest danger of hooping cough consists in the complications which frequently arise in its course, viz., bronchitis and pneumonia. Either of these diseases add very much to the gravity of this affection when they are present. The greatest care should therefore be taken to avoid exposure to cold.

*Housemaid's Knee* is, as a rule, the result of frequent and prolonged pressure upon the knee. It is therefore frequently met with in servants who have a considerable amount of scrubbing to do, which necessitates their kneeling upon hard floors, stairs, or stone passages. The disease is usually of a chronic character, but sometimes the symptoms may be of an acute nature. It is characterised by swelling over the knee-cap, and is in fact due to an effusion having taken place within the capsule of the knee-cap. If the affection is chronic, there is no inflammatory blush apparent upon the skin. This, however, makes its appearance if the disease is of an acute nature. The best treatment which can be employed in such circumstances is rest, together with the application of blisters, the one

succeeding the other as soon as healing of the previous one has taken place. Absorption will thus be induced, and the swelling will disappear in a short time.

*Humerus* is the anatomical name given to the long bone of the arm. It reaches from the shoulder joint to the elbow, and is liable to fracture, when, of course, surgical aid will be necessary.

*Hunger* is that peculiar sensation in the stomach which indicates a craving for nourishment. It is due to what is termed a physiological congestion of the mucous membrane of the stomach, and can only be relieved by partaking of food. In certain forms of dyspepsia and indigestion a feeling of hunger exists. This goes under the name of false appetite, and is due to a pathological congestion of the stomach in contradistinction to the physiological congestion which normal hunger consists in. Many substances remove the sensation of hunger, such as opium, alcohol, tobacco, and coca. The latter substance acts in a very peculiar manner, as it enables the individual chewing it to sustain a considerable amount of fatigue without partaking of food, and yet when food is presented he is able to relish it and digest it without any apparent difficulty. It is very much resorted to by natives of certain countries in South America to enable them to take considerable journeys without eating for hours at a time.

*Hydatids* are parasites which develop in the animal organism, but which are introduced into the stomach either by eating or drinking. These undergo the first stage of their development within the stomach, and become provided with a perforating apparatus by which they penetrate the coats of the stomach or intestine, and find their way into the circulation, afterwards locating themselves in some distant organ or tissue, such as the eye, brain, liver, or muscular tissue. They there produce a cyst within which they reside until they are liberated by the substance in

which they are contained being taken into the stomach of a second animal. There they complete the cycle of their development, and become transformed into a tape-worm. When a hydatid cyst becomes located in an organ, such as the eye, brain, or liver, it may attain considerable proportions, and not unfrequently proves fatal to its host. The fluid of the cyst may be drained off, and the hydatid along with it, when, of course, a cure may naturally be expected. If it exists in the eye, however, it will be necessary to have the whole eyeball removed.

*Hydrocele* is a dropsical condition of the scrotum. It is due to an inflammatory condition of the serous membrane lining this bag, and requires to be treated by the surgeon. Great comfort, however, may be afforded by wearing a suspensory bandage, and in a few rare instances absorption may take place if this treatment is adopted.

*Hydrocephalus* is popularly known as Water in the Head, and is due to an inflammatory condition of the membrane surrounding the brain. It is usually of tubercular origin, and is a frequent cause of death in delicate children.

*Hydrogen Gas* is the lightest known substance—it has neither colour, taste, nor smell when in a pure state. It burns with a pale yellow flame, and in its combustion it unites with oxygen, forming water. Hydrogen gas enters largely into the composition of coal gas. When combined with sulphur it forms sulphuretted hydrogen gas, which is soluble to a considerable extent in water, but is a deadly poison when inhaled.

*Hydropathy* is that system of treating disease by the external and internal application of water. The body and trunk pack, cold water compresses, hot and cold baths, and the douche bath, comprise to a large extent the external applications employed in hydropathy, while the administration of hot or cold water constitutes the internal medicaments employed in this method. There can be no doubt that hydropathy is a most useful adjunct to medical

treatment. Inflammations, either local or general, as well as febrile complaints due to specific causes, may be very much influenced by the judicious application of hydro-pathy. The temperature of the body can be rapidly reduced when fever is present, either by the direct application of cold water to the whole surface of the body, or by promoting perspiration by immersion of the whole or part of the body in warm water. Then, again, the daily employment of the morning bath, if not actually a medical agent, is at all events of considerable value as a preserver of health, and a valuable hygienic measure.

*Hydrophobia* takes its name from the fact that those suffering from it dread the very sight of water. It is one of the most fearful diseases than an animal can be subjected to. As is well known, it is only conveyed by inoculation through the body of an animal suffering from rabies. If a person has been bitten by a mad dog, although the wound may heal in the ordinary manner, it does not follow that the person has escaped the disease, for after an uncertain interval the symptoms may appear—it may be months or even a year after the injury has been inflicted. The first symptoms which show themselves are, an uneasy or painful sensation about the injured part, and if the wound has healed the scar tingles, or some peculiar sensation is experienced in its neighbourhood. This pain or uneasiness extends from the sore or scar towards the central parts of the body, and within a day or two of these symptoms appearing the patient begins to feel very ill and uncomfortable, and the specific constitutional symptoms commence. These are, great irritability of temper, with pain and a choking sensation about the neck and throat, and the patient is unable to swallow fluids, which, if he attempts to do, spasms, not only of the throat but of the body generally, speedily supervene, and within a few days he dies of sheer exhaustion. It would appear that this disease is due to the poison imbibed by the system acting

upon the spinal cord and producing changes there which culminate in the fearful and distressing symptoms of the disease. The precaution to be taken when a person is bitten by a mad dog is, of course, in the first instance to endeavour to destroy the poison by the free application of caustics. Perhaps the most useful application to apply to the wound is pure carbolic acid ; if this is not at hand, then lunar caustic may be applied vigorously and freely to the part. Within recent years a very great deal of information on this hitherto almost uniformly fatal disease has been obtained through the researches of M. Pasteur of Paris, and he has been able by a process of attenuating the virus to render the system so far invulnerable as to enable it to overcome the potency of the poison. This is accomplished by injecting underneath the skin of persons bitten by mad animals this weakened virus ; by doing so he acts upon the system very much in the same way as vaccination does with reference to small-pox. Pasteur's method of treating persons bitten by mad dogs, who are therefore liable to take the disease, has now become universally recognised as one of the greatest achievements of medical science.

*Hydrothorax*, or Water in the Chest, is a dropsical condition of that cavity, due to inflammation of the pleura. See *Dropsy*.

*Hygiene* is that department of science which is devoted to the preservation of health.

*Hypochondria* is the term applied to that portion of the abdomen in which the stomach and liver are contained. It is also applied to a disease which is characterised by lowness of spirits with a tendency to monomania. This disease is usually associated with a sluggish action of the liver and indigestion, and as a rule can be relieved by restoring the functions of these two important organs to a healthy condition.

*Hypochondriasis* is the technical term employed for

hypochondria; hence people suffering from this affection are said to be "hypped."

*Hypodermic*, or Underneath the Skin, is the term employed when medicines are administered by means of a perforated needle and a syringe, by which means the medicaments to be employed are injected underneath the surface. It is not only a reliable, but most efficacious and speedy way of obtaining the beneficial effects of certain agents, such as morphia, atropine, digitaline, ergotine, cocaine, strychnine, and numerous other substances. It is eminently useful in cases of severe pain, whatever may be the cause of it—*e.g.*, in neuralgia or spasmodic affections the subcutaneous injection of one-sixth of a grain of morphia will have an immediate effect in giving relief. Then, again, in great prostration the subcutaneous injection of ether produces a rapid stimulant effect upon the general system. Subcutaneous injections of digitaline will also act very rapidly as a tonic to the heart's action, and in this way a crisis may at times be tided over. Antiseptics have also been employed subcutaneously where microbes have located themselves and developed the disease peculiar to them in the skin, such as anthrax, or, as it is popularly termed, malignant pustule. By this means the course of this deadly disease has been cut short, and the life of the patient saved by this simple measure. It has also been proposed to use the hypodermic syringe in the treatment of cancer, and, as is well known, its employment has been suggested by Professor Koch of Berlin in the treatment of tuberculosis. This, however, has resulted in complete failure. It would be dangerous for any but a properly qualified practitioner to employ hypodermic medication.

*Hysteria*, as its name implies, generally takes its origin in some affection of the womb; it is therefore entirely a disease of females. This is invariably dependent upon some congested or irritable condition of the sexual organs,

and when it is not assumed is a disease requiring much sympathy, for, as a rule, the patient suffers very much more than her appearance would suggest. It is a curious fact that a woman may have a very serious affection of the womb without her general condition suggesting the presence of disease, but as time goes on and the disease becomes more aggravated the general health speedily suffers, and this becomes apparent to the most casual observer. If a woman becomes depressed in spirits, irritable in temper, and easily fagged with the least exercise, we will find on inquiry that this is not all assumed, but that there is some irritation present internally which is exhausting her nervous system and developing these symptoms. It therefore becomes important when a female complains in this way that the condition of the womb should be immediately ascertained. It is strange indeed that such an important organ should have been so systematically ignored when examining for the cause of disease. All sentimentality should be put aside when the health is at stake, and the condition of every organ of the body ascertained before arriving at a diagnosis, as, by ignoring this, a great many women while suffering intensely receive no sympathy because of the ignorance manifested by their medical attendants on this important subject. The symptoms of the patient in these circumstances have frequently been said to be imaginary, when the patient herself knew full well that they were too well founded upon fact. Of course there are impressionable females who give way more readily than others, and who make the most of their symptoms ; it is necessary in such cases to act firmly, but this firmness should always be accompanied by kindness—cruelty should never be resorted to. The general symptoms of hysteria may be summed up as follows :—Lowness of spirits accompanied by weeping at the slightest cause, sometimes alternating with fits of what is called hysterical laughter ; it is seldom

that a hysterical patient looks on the bright side of things, and there is always considerable irritability of temper. Another prominent symptom is what is termed the *globus hystericus*, which gives a sensation as if a ball were in the throat, and conjoined with these there is always more or less an excessive flow of urine, the urine being almost colourless. Neuralgia frequently accompanies this disorder, and there is always sleeplessness. If we dip further into the symptoms we will find that there is a bearing-down sensation at the bottom of the abdomen with weakness and pain in the back, also pains extending from the groin down the limbs; these, of course, are due to the direct cause of the hysterical symptoms. The treatment consists, first of all, in removing the local irritation, which will be materially assisted by enjoining rest in the horizontal posture; the bowels should also be very carefully watched; the tincture of valerian or the ammoniated tincture of valerian will be found very efficacious when a paroxysm threatens or is actually present—this may be given in tea-spoonful doses in water every two or three hours; a pill containing  $2\frac{1}{2}$  grains of valerianate of zinc and 2 grains of extract of conium given forenoon and afternoon will be found the best nerve tonic for a hysterical patient. These may be continued for ten or twelve days at a stretch. Women, and young women especially, are very much given to underclothe themselves, and especially to abjure the use of flannel next the skin. This, it need hardly be said, is a very pernicious habit; it is therefore essential that all suffering from nervous prostration, from whatever cause it may arise, should wear flannel next to the skin. The digestive functions are liable to go out of order in hysterical patients; the diet, therefore, should be carefully regulated and adapted to the conditions of the stomach of the patient. From what has been said it is absurd to say that a man can be affected by hysteria; doubtless he may suffer from nervous

symptoms, but that these are hysterical carries absurdity on the face of it. See "Woman in Health and Sickness."

*Ice* is the crystallised condition of water, and may be said to be water from which the latent heat has been extracted. It is a most useful article in the treatment of many diseases—*e.g.*, in congestion of the head the application of iced cloths or a bladder filled with ice is a most potent remedy. It also has a most powerfully remedial effect in certain diseases where the temperature is unduly high. The author has seen it of the utmost value in typhoid fever, where death seemed imminent from the high temperature affecting the heart's action and causing it almost to cease; in such circumstances the application of a bag of ice over the heart and upper portion of the abdomen has frequently tided the patient over what appeared to be a fatal crisis. By this means the temperature of the body may be reduced in a very short time 4° or 5°, and it is astonishing to find how the heart's action improves along with the subsidence of this abnormally high temperature. Ice is also frequently employed externally as a local anæsthetic, and is specially useful as such in severe cases of neuralgia. As an application to the throat, externally, it is most useful in inflammatory affections. As an internal remedy, ice is highly beneficial in obstinate vomiting—a good plan to give it in such circumstances is, to powder the ice and give it in tea-spoonful doses, requesting the patient to swallow it before it is melted in the mouth. Iced drinks will also be retained when the stomach is highly irritable, when fluids at a warmer temperature would not be retained for a moment. It is also very grateful in inflammatory affections of the throat, when taken internally.

*Iced Drinks*, or *Ices*, are not only articles of luxury, but in some countries appear to be necessities. There is no doubt that if a considerable quantity of ice is taken into the stomach it has a depressing effect for the time being

upon the secretions of this organ, but it does not appear to have any deleterious effect if the organ is in full action in the process of digestion. Theoretically, certainly, it appears as if this would be the case, but practice proves that iced drinks taken during or after a meal have no deleterious effect, if not indulged in too freely. Iced drinks, as has been stated in the previous article, can be retained and digested, while articles having a higher temperature are rejected.

*Ichthyosis* is a disease of the skin which develops hard scales, making the surface somewhat resemble the skin of a fish. The disease is frequently hereditary and usually congenital. It is to a certain extent endemic to some districts, and is very difficult to treat successfully.

*Idiocy* and *Imbecility* may be described as the result of an immature or ill-developed brain. These diseases are invariably congenital, the one being only a milder type of the other. They are usually the result of frequent inter-marriages, but they also occur where the constitutions of the parents have been tainted by syphilis or tubercle. If these diseases exist in the parent, and inter-marriage also exists, the offspring are thereby much more liable to be deficient in their intellectual powers. No doubt a great deal can be done for the amelioration of the subjects of these distressing mental conditions, but the idea of curing and elevating them to the platform of intellectual beings is beyond the scope of medicine. Both imbeciles and idiots should invariably be placed in asylums or institutions devoted to their care.

*Idiopathic* is that term which is applied to diseases which affect an individual without any external or apparent cause being noticeable. It is the term applied in contra-distinction to traumatic, when some external injury has existed.

*Idiosyncrasy* is that peculiar state of the mental or physical apparatus which reacts in such a manner as to

render an individual peculiarly susceptible to certain diseases and influences which other people are not affected by—*e.g.*, hay fever is an idiosyncrasy, so is asthma, but the most peculiar form of this susceptibility which I have known was in an individual who, on smelling the aroma of certain flowers, was immediately attacked by catarrh of the mucous membrane of the nose, or, as it is commonly called, cold in the head. It was not, however, as can be easily seen, due to cold, but to irritation arising from the emanations of certain flowers. With regard to the administration of medicine many peculiar idiosyncrasies require to be stated and noted—*e.g.*, the least quantity of mercury administered to some people will cause salivation, whereas others may be able to take it in considerable quantities without any apparent effect being produced. Eruptions on the skin occur in some people when certain articles of diet are partaken of or certain medicines given, while others, and the majority, are uninfluenced by these substances. Certain individuals are unable to take quinine from the physiological effect it produces upon the hearing; others, again, are purged by taking iron, while as a rule it has an opposite effect. Then, again, it has been stated that Epsom salts have actually produced constipation in certain individuals.

*Iliac Passion.* See *Colic*.

*Imitation* is a peculiar tendency which the human race as a whole seem to inherit—*e.g.*, squinting, stammering, peculiar movements of the body, of the limbs, and of the head are liable to be acquired by coming in contact with people suffering from these habits. The more susceptible a person is, the more readily will he become influenced by surrounding circumstances, such as have been noted. It is quite absurd to indulge in the idea that these habits cannot be overcome; biting of the nails, grinding of the teeth, and other disagreeable habits can invariably be overcome by exercising a little discipline. This, however,

cannot be said so confidently with regard to squinting and stammering, yet it is wonderful what an amount can be done to remedy these peculiarities by systematic training and exercise.

*Imperial Drink* is made by pouring a pint of boiling water upon half an ounce of cream of tartar and one lemon cut into slices and allowing it to cool, the fluid afterwards being poured off as required for the patient. It has an excellent effect on certain sluggish conditions of the kidneys, and is also a mild laxative. It may be taken *ad libitum* where there is any slight feverish condition combined with a deficiency of urine.

*Impetigo* is a pustular eruption of the skin. It may be associated with eczema, when it is called impetiginous eczema. It should invariably be treated by a competent medical man, but if this is beyond reach great benefit will be derived by the application of an ointment containing a small proportion of nitrate of mercury, chrysarobin, and quinine.

*Incontinence of Urine* arises from a deficient action of the sphincter muscle of the bladder. It is not at all of unfrequent occurrence in boys up to a certain age, and sometimes even in girls, who, in consequence of this weakness, pass their urine during sleep. It again occurs in very aged persons, when it is usually a symptom of approaching death, as in these circumstances it is due to paralysis. When children suffer from incontinence of urine, the important point to attend to is to keep the lower portion of the body at a higher elevation than the bladder, so that pressure does not occur upon this sphincter muscle which surrounds the orifice of exit from the bladder. Certain medicines are also useful in these circumstances, amongst which may be mentioned belladonna, nux vomica, and steel drops. As this condition is frequently aggravated by constipation or the presence of worms in the intestines, these causes should be removed.

Douching the parts with cold water night and morning and using considerable friction are also very beneficial adjuncts to other treatment.

*India-Rubber* is a gum resin possessing elastic and waterproof qualities which render it a most useful substance in medicine. Its numerous preparations have been largely taken advantage of in the manufacture of various apparatus for the sick-room, also for instruments employed by the physician and surgeon, such as the enema syringe, catheters, pessaries, waterproof sheets, hot-water bags, ice bags, etc. No better means for applying hot fomentations have been devised than that of the hot-water bag, which, if half filled with water and all the air expelled so as to permit it to apply itself properly to the patient, is admirably adapted for keeping fomentations hot. It is also of great service when used for the manufacture of air cushions, water cushions, and water beds. The uterine douche manufactured from india-rubber tubing is the best in the market. This can be used in the form of a syphon, the pressure of the water being increased or decreased as the vessel from which the water is drawn is elevated or depressed. The enema syringe manufactured from rubber is much preferable to that made with metal, as it is less liable to corrode and is always easily brought into use.

*Indigestion*, or *Dyspepsia*, is probably the most common complaint that the human frame is liable to; this is largely due to the fact that people will not study their diet nor attend to the daily evacuation of the bowels. Indigestion may arise from many causes, the chief of which are—the partaking of rich or unwholesome articles of diet, which, of course, can be easily remedied by abstaining from those particular substances which one by experience learns to be the cause of the trouble; also nervous debility brought on either by mental fatigue and worry or from the enervating effects of certain diseases; while febrile disturbances have also a direct effect upon the digestion.

Dyspepsia frequently arises from catarrh of the stomach, and this condition is in many instances hereditary, while in others it is the result of exposure to cold. When this exists an undue secretion of mucus takes place, and a deficiency of gastric juice results. When indigestion is purely stomachic in its origin it is indicated by a feeling of discomfort or pain immediately after taking food, with an inclination to vomit. In other forms the dyspepsia manifests itself by a sensation of distention of the stomach, accompanied by frequent eructations. This is generally accompanied by fermentation of the food, the fact being that the temperature of the stomach favours this kind of decomposition, and the result is the generation of acid and gas, which in consequence is accompanied by the eructation of flatus, or wind, as it is popularly called. The acidity which accompanies it may be of such an acrid nature as to give rise to what is popularly known as heart-burn, and this is also accompanied by pyrosis, or water-brash, which is an eructation of a watery fluid having a disagreeable taste. Along with indigestion there is frequently an undue inflation of the intestine as well as of the stomach, and when this is the case it is manifested by a feeling of fulness low down in the abdomen, together with a gripping sensation. As a rule, this is due to undigested food finding its way into the intestinal canal. When indigestion is present it is essential that a proper dietary should be prescribed, and it will be found that the following instructions, if carefully carried out, will be of considerable service, viz., the avoidance of soups, stewed meat and boiled meat, and if such articles as porridge and vegetables produce acid, these should be abstained from also. Another pregnant cause of indigestion is the partaking of tea in too large quantities, and especially of tea which has been long infused; it is therefore necessary that tea should not be infused for more than three or four minutes at the outside. Bread should not be eaten before

it is at least one day old, and brown bread, or that which is made from whole wheaten meal, will be found much more easy of digestion than white bread. Then, it may be necessary to assist the digestion materially by adopting an exceedingly simple diet. It may be necessary to abstain entirely for a little while from butcher meat, and only such articles as chicken, fish, sweetbreads, revalenta, and milk diet generally will require to be partaken of. It is also a well-known fact that butcher meat underdone is much more easily digested than that which is overcooked. It need hardly be mentioned that in cases of dyspepsia it is essential that thorough mastication of the food should take place, but perhaps that which is as necessary as anything is the daily evacuation of the bowels, and where this requires assistance a small dose of Gregory's mixture will probably answer the purpose better than anything else. If catarrh of the stomach is present, or if dyspepsia from other causes exists, great service will be obtained by washing the stomach thoroughly out before eating, and this can be accomplished very easily by sipping a tea-cupful of very hot water about an hour or three quarters of an hour before meals. Regular and systematic exercise in the open air, and the employment of a cold bath, either by means of the spray or sponge, with a good rub down in the morning, will also be found very advantageous. Then, again, it must be remembered that suitable clothing is an important factor in the treatment of dyspeptics, as it is essential that the body be kept warmly, but not over-clothed, and with a view of accomplishing this, flannel should always be worn next the skin. If the feet are cold, and the sleep is disturbed by dreams, with a feeling of fatigue in the morning accompanied by bad taste and frontal headache, we may rest assured that the bowels are in an unsatisfactory condition. These symptoms are frequently ascribed to biliaryness, but the liver is not altogether at fault, the condition being due to a very

large extent to the fact that the lower bowel is in a torpid state. When such symptoms are observed a saline purgative, very thoroughly diluted with water, taken before breakfast, will prove most beneficial. When it is necessary to assist the digestion, pepsine, ingluvin, papain, zymine, or pepsencia will be of considerable service if taken immediately after meals. Frequently, pepsine combined with aromatic powder, bi-carbonate of soda, and magnesia will give great comfort and relieve the distressing symptoms. The following prescription may be taken with advantage if combined with the regulations as to diet which have just been given:—Pepsine and aromatic powder, of each three parts, bi-carbonate of soda, eight parts, and heavy magnesia, four parts; half a tea-spoonful of this powder to be taken in water immediately after food. If, however, the indigestion proceeds from an atonic condition of the stomach it may be necessary to combine this with 20 drops of tincture of nux vomica and a table-spoonful of a bitter infusion, such as that of quassia, calumba, or gentian. Nux vomica is an admirable medicine where the stomach requires tone. It will always be advisable, however, when indigestion is present to consult a competent medical man, as it is quite impossible for any patient to treat himself, however well he may be advised in a work of this kind; indeed, medical men themselves are quite unable to treat a disorder of this kind occurring in their own persons.

*Infection* is applied to the contraction of disease through the breath. It is contradistinct from contagion, in so far that this is the contracting of disease by touch. Some diseases are both infectious and contagious. It is a question, however, if infection can be in every instance due to the inhalation of the poison. It is very probable, I think, that it is the result of the disease germs finding access into the mouth and being imprisoned there in the saliva and thereafter swallowed. So far as my own

observations have gone, I have been led to believe that if a person who is in the vicinity of a patient suffering from an infectious disease continually keeps his mouth shut and breathes through his nose and does not swallow his saliva, that he will escape infection. It is therefore important that individuals who are obliged to come in contact with diseases of this nature should act up to these injunctions. Of course it goes without saying that disinfectants have a most powerful influence in destroying infection, and as these substances can be employed without any detriment to the patient, they should invariably be diffused through the sick-room.

*Inflammation* is that unhealthy action which may arise in any part of the human body, and is characterised by an engorgement of the blood-vessels of the part, producing redness, pain, and swelling. It may arise from the direct introduction of some poisonous matter or by the absorption of septic material from without; indeed, in every instance it would appear to be due to the latter influence. It has recently been ascertained that the engorgement which takes place in the part which is inflamed is due to the development of microbes of an injurious nature within the part. These microbes have the power of developing very rapidly within the blood stream, but there are substances within the blood called white corpuscles or leucocytes, which, when a part is invaded by this poisonous matter, immediately congregate in the neighbourhood, and, by the power which they possess, attack the germs producing the mischief, and endeavour to destroy them by absorbing them within their own cellular structure, thus devouring them, so to speak. These bodies, in consequence of this peculiar power which they possess, have obtained the name of phagocytes, and the process of their action has been termed "phagocytosis." Whatever be the nature of the septic germs which develop inflammation in a part, these phagocytes invariably accumulate in the neighbour-

hood and endeavour to destroy them. That they are not always successful is a fact of which we are too well conscious, but it is astonishing what can be accomplished if they are assisted by the bodily health being well sustained by nutritious and stimulating nourishment. Medicines are also of considerable service in assisting them in their efforts. Amongst the most useful remedies which we can employ in these circumstances are those which reduce the temperature of the body, which is always high during the existence of inflammatory action. The most useful are phenacetin, salicine, quinine, aconite, and those substances which act upon the skin, producing free perspiration—such as ipecac, liquor of the acetate of ammonia, sweet spirits of nitre, and hot gruels. If the inflammation is external, the application of ichthyol, belladonna, dilute solution of carbolic acid, menthol in solution, ice, cold water compresses, and hot fomentations. If the disease has affected an internal organ, then the application of mustard poultices, fly blisters, dry cupping, and even blood-letting may be found to afford very beneficial results. In every instance, however, it is essential that the vital forces should be well maintained by judicious nourishment and stimulation, if necessary. There can be little doubt that when inflammation is present it is not so much the local mischief that tends to produce a fatal result as the high temperature of the body which accompanies the attack, as when the temperature is running high the whole muscular system of the body, especially that of the heart, is impoverished, and tends to become flabby; therefore it is the first duty of anyone in charge of a patient whose temperature is above the normal to get this reduced as rapidly as possible. Phenacetin in 10-grain doses, repeated every four hours if necessary, will, in these circumstances, have a most beneficial effect, and not only prevent this enervation of the muscular system from proceeding too far, but also

assist in maintaining the vital energies of the leucocytes, which have so much to do with the destruction of the disease germs. It is also necessary that the lower bowel be kept empty, preferably by the enema, as thereby a most prostrating effect is avoided, this prostration being due to the absorption of foetid matter from the large bowel, which, of course, has an additional prejudicial effect upon the blood current. A person suffering from inflammation will be very thirsty ; his thirst therefore should be assuaged by allowing him to partake freely of farinaceous gruels, which tend, as it were, to supply the super-heated blood with fuel, and thus prevent it from preying upon the tissues of the body. It is, however, needless to advise that wherever inflammation, accompanied by a temperature above  $101^{\circ}$  exists, that the patient should be immediately placed in the hands of a medical man.

*Influenza* may be described as the most typical example of epidemic disease. It literally comes upon the people, and does not appear to be conveyed by infection so much as it is produced by a peculiar atmospheric condition, due evidently to the fact of the atmosphere being loaded with the germs of this disease at the time being. Influenza has been (in the popular mind) very much mixed up with ordinary catarrh and cold, for the reason possibly that the premonitory symptoms of influenza very much resemble those of common catarrh ; they are, however, two very distinct diseases. Influenza is a feverish attack coming on quite suddenly, and producing invariably a sudden and considerable rise in the temperature of the body. It is always accompanied in the first stage with a catarrhal affection of the mucous membrane of the air passages, hence it is probable that the disease germs primarily locate themselves upon the mucous membrane of these passages very much in the same way as the poison of measles does, and through these channels it enters the general circulation. Shortly after the onset of the disease

there is great prostration, shivering, and pains through the whole body, especially in the loins and head. As a consequence of the fever there is loss of appetite, and in many instances vomiting, with intense heat of the surface and excessive thirst. As a result of the affection of the mucous membrane there is generally cough, and not unfrequently this congestion of the bronchial tubes may extend until it reaches the lung tissue, and thus produce pneumonia, which so often is the direct cause of death in this disease. Death, however, may occur from the excessive debilitating effects that the disease has upon the vital powers, especially upon the heart. As is well known, influenza seems to come in waves over a very large extent of the world's surface, and attacks large numbers at once, and frequently simultaneously. This is a striking peculiarity of the disease. Another of its characteristics is the tedious convalescence which follows it, and the liability to relapse or to a fresh attack occurring. It is not a little remarkable how some people escape from its ravages. It would appear that only those whose health is at the time in an unsatisfactory condition are affected; especially are those liable to it whose blood is contaminated by faecal absorption from the lower bowel, due to that commonest of all evils and predisposer of disease, constipation. Of course exposure to cold or any other influence which will depress the vitality for the time being will also lay the system open to an attack. In the treatment of this disorder we must always remember that death occurs in every instance from the disease affecting the vital organs with such rapidity that they are unable to withstand the attack. Now this, to my mind, is entirely due to the fact that the febrile disturbance in the system is so great, and the high temperature which results has such a prostrating effect upon the heart's action, that congestions of all kinds are very easily set up, in consequence of the driving power of this organ being so terribly reduced. The first point

then, and the most important, to attend to in the treatment of influenza is, to reduce the temperature at once. On no consideration permit it to be retained at anything above 100°, and this can readily be accomplished by the free and, if necessary, frequent administration of phenacetin. For a child up to six years of age four grains may be given every four hours, up to ten years six grains, from ten to fifteen years eight grains, and above that ten grains may be safely administered at intervals of four hours if necessary. Phenacetin is not only a safe but a most efficacious remedy in diseases which give rise to a high temperature. At the same time that this medicine is being administered, the lower bowel should be kept clear by the daily use of the enema, and the vital powers sustained by judicious nourishment. When an attack of influenza is threatening, the free inhalation of eucalyptus oil or menthol by a steam inhaler may cut it short, but the grand point to observe is the condition of the general health, and especially that of the bowels.

*Inhalation* is one of the most efficacious means of introducing medical substances into the respiratory organs and blood, if this is required. When it is desired to act locally upon any portion of the respiratory tract, the vapour is conveyed by means of steam issuing from any article which is employed as an inhaler. The common jug answers the purpose fairly well, but there are vessels to be had adapted for the purpose, which are manufactured and retailed at most moderate prices. Amongst the more common vapours employed in inhalation are those of menthol, eucalyptus, terebine, pumuline, camphor, and other volatile substances. The inhalation of chloride of ammonia, for which a special inhaler has been manufactured, has of late years been largely employed in the treatment of catarrh of the nares and bronchial tubes. It is easy of application, and not at all unpleasant for the patient, and at the same time has considerable power in

relieving the distressing symptoms which are invariably present in these cases. Sulphurous acid was at one time held in high esteem as an inhalation in the treatment of catarrhal affections of the air passages, but, like many other things which have been boomed too much, it has fallen into an oblivion which it scarcely deserves, as it is doubtless a most useful agent in the treatment of the first stage of catarrh, and this is evidently due to its antiseptic properties. When it is desired to act by inhalation upon the blood, as in the production of anaesthesia during operations, ether, chloroform, laughing gas, and other like substances are inhaled without being diluted, except by atmospheric air. The inhalations used in these circumstances are quite distinct from those employed when medicinal effects alone are desired, and as the administration of these substances is always attended with more or less danger, this should never be undertaken by unskilled hands. Oxygen gas in its pure state has of late come again into use in such diseases as pneumonia, etc. In its concentrated state it is administered to tide the patient over what may be considered the crisis, and by this means the lividity indicating a deficient oxygenation of the blood speedily disappears, this being due to more complete oxygenation taking place, in consequence of the gas being inhaled without dilution. Simple steam may frequently be inhaled with advantage where there is sore throat or an irritable condition of the wind-pipe. It is also a very useful soothing agent in bronchitis, especially in children, and the apartment occupied by the patient can be kept moist by means of what is popularly known as a bronchitis kettle, from which a constant current of steam is kept flowing. This may be impregnated with eucalyptus oil, terebine, or pumuline. The inhalation of carbolic acid vapour is very useful and beneficial in whooping cough, and is also of considerable service in other spasmodic coughs, and in the inveterate

coughing of consumption. In diphtheria the inhalation of iodine vapour and that of eucalyptus oil has been strongly advocated, and doubtless not without good reason. Inhalation, however, in such diseases as these must not be relied upon solely as the means of treatment, as local measures require also to be adopted.

*Inhalers* have lately become so numerous that it would be impossible to name them all in a work of this kind. The simplest form is that of a vessel having a narrow outlet. This may be three parts filled with boiling water with the medicated substance introduced, the mouth held over the orifice, and the steam inhaled. Another form is the spray inhaler, which is much more elaborate, and requires either heat or the action of india-rubber balls to produce the spray. Dr. Richardson's spray producer is very easy of application, and by this means substances which will not volatilise can be applied to the throat and air passages. The inhaler or, as it should be more properly designated, atomiser requiring a spirit lamp for its application is of great advantage when it is desired to apply the medicated fluid in a warm condition to the parts to be acted upon. They are not difficult to manipulate, and as they are not at all expensive articles to buy, they have rightly attained great popularity. These, with the exception of the small vial in which the medicated substance is placed, are composed entirely of metal.

*Injection.* Refer to *Enema*.

*Inoculation* is the introduction of a foreign substance into the system by means of a wound. The term is generally applied to the inoculation of small-pox, which was frequently adopted prior to the discovery of vaccination by Jenner. It was found that the introduction of the disease artificially rendered the patient less liable to the full virulence of the disorder. Inoculation at the present day is much more largely employed than ever it has been before, both among animals and the human race. It has

been ascertained, principally through the researches of Pasteur, that certain diseases of a most virulent type can be modified to a remarkable degree, and indeed, in many instances, the system may be rendered impervious to them when an attenuated virus is introduced by subcutaneous injection. Amongst these diseases may be mentioned tetanus or lock-jaw, hydrophobia, anthrax, pleuro-pneumonia, etc.

*Insanity* or *Unsoundness of Mind* are terms which are applied to aberrations of the mental faculties. Although these diseases may come on in the course of one's life, they are, as a rule, hereditary in their tendency. Many modified forms of insanity exist, such as monomania, peculiarities of the mental faculties, imbecility, dementia, idiocy, and complete lack of the mental faculties, called amentia. The main points to be observed in considering insanity are those which relate to the legal responsibilities of the individual; many people labour under delusions which in themselves are harmless, and these people may be able to perform their social duties fairly well, but should the delusions referred to be so pronounced as to lead them to be dangerous from a legal point of view, then it becomes necessary to put them under restraint; indeed, whenever a mental affection has even a suspicion of rendering the individual irresponsible for his actions, it is not too soon to take the precautions which the law prescribes for the detention of such persons. When a patient, whose mind is supposed to be affected, becomes suspicious and indulges in conversations with himself, and looks upon his best friends as his enemies, it is time that particular note be taken of his actions, and if these go to prove that his mental capabilities are becoming undermined medical aid should be at once called in, and proper precautions taken either to prevent him injuring himself or others, or to put him under restraint entirely. This, of course, cannot be done without the sanction of his friends, the certificates of two

unprejudiced medical men, and the warrant of a magistrate or sheriff. Whenever an individual whose mind is suspected of being unhinged makes either an attempt upon his own life or that of another, no time should be lost in resorting to the measures which the law enacts. When the mind becomes disordered it is generally preceded by restlessness, inability to attend to one's normal duties, peculiarities of conversation, these generally running in a special groove, suspicions regarding his best friends, sleeplessness, and general disorder of the bodily functions. With a view to ward off worse symptoms, and if possible bring about a cure, the first thing to attend to is, to endeavour to procure for the patient a refreshing sleep, and this may be attained by the judicious administration of certain soporifics, the best of all being sulphonal. This can be given without danger, and generally with the very best results. Mania is a form of insanity which may be either acute or chronic, and is indicated at first by the patient showing peculiar emotional proclivities, this being followed by disorder of the intellectual powers. The first symptoms which appear are generally those of despondency, irritability of temper, combined with sleeplessness. The digestive organs, together with the functions of the bowels, are generally very much disturbed, the skin becomes hot and irritable, and sometimes may even develop an eczematous disease. Such cases are generally associated with a rheumatic constitution ; the despondency frequently attains such a pitch that the patient may make an attempt upon his life, or if his mania is directed in a particular channel he may develop homicidal tendencies. Another form of mania is called, rightly or wrongly, kleptomania. This, however, is often taken advantage of as a shield for thieving propensities which have nothing but the criminal element in their nature. Dipsomania is said also to be a form of insanity, and doubtless it becomes so when the patient indulges in his proclivity for drinking.

A certain form of mania not unfrequently attacks women shortly after confinement, this being generally associated with a hereditary tendency to mental disorder, and is called puerperal mania. As a rule, however, this disease will speedily subside if the patient receives a proper amount of sleep, either artificially or naturally. Epileptic mania results from continuous attacks of epilepsy, and is generally associated with some disordered condition of an organic character located at the base of the brain in close proximity to the spinal cord. At the change of life women are frequently attacked by a species of mania which, as a rule, is associated with some organic mischief occurring in the womb or its appendages. These attacks not unfrequently develop into insanity, and can only be relieved by the removal of the diseased condition which is the origin of the malady. When any form of mania has once attacked an individual, relapses are very liable to occur, but when such attacks occur in a person who has previously enjoyed good health they are generally due to some organic lesion, and the first duty of the physician is to attend to the removal of the disorder which has in the first instance given rise to the disease. If this is done in an efficient manner, and the disease disappears, we may calculate that there will be no recurrence, providing the affected organ is completely restored to health. It is a curious fact that when insanity occurs in an individual who previously has enjoyed mental health, the most extraordinary hallucinations possess him or her, and he or she may become possessed of the idea that they are transformed into personages occupying prominent positions either in ancient or modern history—*e.g.*, the author has met with individuals who have so far lost their own identity as to make them pose as emperors, kings, queens, generals, and even as Jesus Christ. It is needless to say how pitiable it is to behold men and women whom we have been acquainted with in their sane moments subject

to such terrible delusions. There can be no doubt whatever, leaving out the more severe types of this painful disease, that many persons whom we consider rational in almost every respect are more or less insane upon certain topics, and that those who are so-called eccentric have to a greater or less degree insanity in their constitutions; indeed, there seems to be a point at which high mental culture stands on the verge of a precipice dipping down deep into the abyss of insanity, and from which pinnacle a very slight mishap would precipitate them. With regard to the treatment of this painful disorder little can be done except by judicious restraint and careful attention in an asylum devoted to the care of patients affected with this malady.

*Inpiration* is that act of the lung, combined with the movements of the chest and diaphragm, by which air is drawn through the air passages into the vesicles of the lung tissue. It is therefore opposed to the act of expiration. In a healthy adult the number of inspirations per minute should average eighteen; these, of course, are naturally increased according to the amount of exertion that is being expended, but in the quiescent state of the body from sixteen to twenty inspirations may be considered normal. If, however, the lung has been affected by disease, and a portion of its tissue destroyed, then the number of inspirations will be thereby increased, so as to maintain a proper oxygenation of the blood. In all affections of the lung, such as bronchitis, asthma, pneumonia, and tuberculosis, the number of inspirations is necessarily increased, and frequently disease of these organs may be suspected from the fact that the breathing is more rapid than normal.

*Intemperance* may be said to comprise either the over-indulgence in alcohol, tobacco, or food. It is a strange coincidence that those who are intemperate in any of these articles live the shortest lives. I mean by this, that those

who are intemperate drinkers die young, those who are excessive smokers also shorten their lives, while those who are inordinate eaters invariably die before they have attained the normal epoch of life's duration. Teetotallers are, as a rule, inordinate eaters, and therefore hurt themselves quite as much, if not more, than they would do were they to indulge moderately in stimulants. Smoking to a moderate extent invariably has the effect of quieting the nervous system, and at the same time has a tendency to keep the appetite within proper bounds ; and I feel certain that if statistics be properly stated, that those who eat moderately, drink moderately, and, if they choose, smoke moderately will in every case be found the longest livers. There is quite as much intemperance practised by advocates of total abstinence by their indulgence in articles of diet, as well as by their speech, as there is by those who partake of stimulants to excess, and a great deal of mischief accrues by their vituperative remarks upon a subject which ought to be left to every man's good sense.

*Inter-Marriage* is a custom which should be deprecated in the strongest terms, as it not only weakens the individuals constitutionally and mentally, but at the same time tends to develop hereditary disease which otherwise may have lain latent. Insanity and tuberculosis are the two diseases which are most frequently the outcome of inter-marriage.

*Intermittent* is the term applied to diseases which, like ague and neuralgia, come on in paroxysms and then subside, leaving the patient comparatively well for a short time, but only to disappoint his hopes, and return again with renewed vigour. The term is also applied to the pulse when it intermits or misses a beat every now and again. This is not necessarily a symptom of heart disease, but may be due to some nervous disorder consequent upon some stomachic derangement, or possibly from the over-indulgence in the use of tobacco and stimulants.

*Intestines.*—The intestines, as is well known, occupy the abdominal cavity, and consist of that portion of the alimentary canal which commences at the pyloric end of the stomach and terminates at the anus. The intestines are divided into the duodenum, jejunum, and ileum, which constitute the small intestines. The ileum terminates in the large intestine, or colon, in a kind of valve-like opening called the ileo-cæcal valve, beyond which is a cul-de-sac, or pouch, about three inches in length, called the cæcum. Attached to this cæcum is a worm-like appendage about the thickness of a goose quill, tubular in form, and from four to six inches in length, the use of which is not understood ; yet it is a very important structure, as it is liable to inflammatory disease, and the surrounding tissue may be the seat of abscesses from inflammatory action taking place in it, or its immediate neighbourhood, giving rise, as the case may be, to typhlitis or perityphlitis. Generally speaking, the intestines are divided into small and large. The former, though of small calibre, are more than three times the length of the colon, or large intestine, and it is in the small intestine that the chyle is absorbed into the general circulation. The duodenum measures from eight to ten inches in length, and is continuous with the pyloric orifice of the stomach. It forms a kind of horse-shoe groove between the liver and the pancreas, and above its middle receives the secretions of the pancreas and liver, which enter it by a common duct. It is to these juices that the transformation of the chyme into chyle, which the stomach discharges into the duodenum, owes its accomplishment. The jejunum, which is continuous with the duodenum, receives its name from the fact of its usually being found empty after death ; in other respects it presents little difference to duodenum in its structure. The ileum, which again is continuous with the jejunum, and which forms the last third part of the small intestines, has a somewhat narrower calibre, and its coils or convolutions

are much more numerous. The entire length of the small intestines measures about twenty feet. The inner surface of the intestines, or mucous membrane, is supplied with innumerable glands, follicles, and villi, by means of which the food is absorbed and transmitted to the circulation through the chyle duct. As has been before said, the jejunum terminates in the large intestine, and the junction of these two portions of the intestines takes place in the right side, low down in the abdomen. The colon then ascends upwards on the same side until it reaches the lower border of the liver, when it crosses horizontally to the left side, and thus forms what is termed in anatomy the transverse portion. It afterwards passes downwards on the left side of the abdomen, and when it reaches the upper portion of the sacrum it takes the form of the letter S, and is therefore termed the sigmoid flexure, after which it terminates in the rectum, which is a straight tube from which the fæces are discharged. At the extremity of the rectum there is a circular muscle called the sphincter of the anus, which when closed retains the faecal discharges, and when open permits of their exit. The healthy condition of the lower intestines has so much to do with the preservation of health that too much stress cannot be laid upon keeping them in a healthy state, and emptying them at least once every twenty-four hours. Numerous diseases may affect the intestines, such as catarrh, ulceration, atony, rupture, stricture, and inflammation. When ulceration takes place, which it frequently does in the progress of typhoid fever, haemorrhage is liable to occur, and this complication adds very much to the gravity of the disease. The rectum, on the other hand, is liable to stricture, cancer, haemorrhoids or piles, and fistula, while the anus may be the seat of fissure and intense irritation, causing most inveterate itching, termed pruritus.

*Intoxication*, although literally meaning a poisoning of the blood by alcohol or any other toxic agent, is generally

applied to that resulting from excessive use of alcoholic stimulants. The first symptom of alcoholic poisoning is the local irritation produced upon the stomach, which is indicated by a sense of warmth. When, however, the alcohol is absorbed into the blood, its next effect is upon the brain and spinal cord, and through these upon the entire nervous system. At first the imagination is excited, and brilliant and happy thoughts pass through the mind ; as, however, the stimulant obtains a greater possession of the nervous system, the mental and physical power of the individual are, according to the amount imbibed and the susceptibility of the person, brought to a stand-still, or they become unable to perform their functions properly. Whenever the partaking of alcohol produces flushing of the cheeks, it has then proceeded to a poisonous extent, this being due to the fact that the nerves which control the arteries are, for the time being, paralysed and unable to keep the blood-vessels in a state of contraction. It is therefore an important point in the administration of alcohol as a stimulant to observe this fact, and prevent the patient having more, or even as much as produces this symptom of alcoholic poisoning. The next symptom which follows flushing, if alcohol still be imbibed, is pain in the forehead and inability to hold the head up, the eyes lose their expression and become half closed, so that the whole physiognomy is altered, and a vacant expression exists. The voluntary muscles are then lost control of, and the arms drop or their movements become irregular, and the legs are unable to support the individual in his effort to walk. If the poison be still partaken of delirium is apt to follow, and sleep disappears. The condition then becomes very grave, and delirium tremens is apt to supervene. If a large quantity of alcohol has been imbibed in a short space of time and unconsciousness has resulted from this, the first proceeding to be adopted is to empty the stomach as rapidly as possible by

means of the stomach pump, and afterwards wash the organ out with warm water. Free vomiting may, however, be excited by the subcutaneous injection of apomorphine; for, as a rule, it will be impossible to get the patient to swallow an ordinary emetic, but not unfrequently nature takes the matter into her own hands, and the alcohol itself seems in many instances to act as an emetic. If the extremities have become cold through the effects of the poison, and the external heat must be maintained artificially, electricity may also be employed with a view to rouse the drunkard. If other methods fail, mustard plasters may be applied to the pit of the stomach and between the shoulders, but in every instance the first point to attend to is the complete emptying of the stomach, as these other measures may be pursued and yet absorption of the poison still be going on.

*Ipecacuanha* is a most useful medicine; it has a special effect on the involuntary muscles of the intestines and womb, and is also largely used as an expectorant in chest diseases, and as an emetic in these affections also. It is the root of a South American plant, and comes to this country in small pieces about the thickness of a goose quill, possessing a brown, wrinkled, and knotty appearance. Ipecac should be constantly kept in the houses of everyone who has children, as it is most useful in spasmodic croup and all affections of the chest. In dysentery it has a specially curative effect, but where this disease exists it is necessary to give the powdered ipecac in very considerable doses, or little good will be obtained. When ipecac is combined in the preparation of one part of powdered root with one part of powdered opium and eight parts of sulphate of potash, it forms Dover's powder, which is a popular remedy at the beginning of colds and in inflammatory affections. Ten grains of this powder given at bed-time in a hot gruel induces free perspiration, and has a most beneficial effect in the circumstances that have been

mentioned. This drug is usually combined with an alkali, such as carbonate of soda or carbonate of ammonia, paregoric, and syrup of squills. As an expectorant the most useful and popular mode of administering this medicine is in the form of wine or tincture. This is made by the powdered root being immersed in sherry wine for two or three weeks and then filtered.

*Iris* is the coloured portion of the eye surrounding the pupil, and placed between this and the white of the eye. Its colour is entirely due to a deposit of pigment within its structure, and it opens and shuts according to the amount of light that is to be admitted into the retina.

*Iron* is largely used as a medicinal agent, and is administered in a great variety of preparations. It enters into the composition of many mineral waters, and it would appear that when thus administered it acts more beneficially than when it is prepared artificially. Iron should never be taken by persons who are of a costive habit, and where it is employed as a medicine no benefit will be derived if the bowels are not kept freely open during its administration. It is a splendid blood tonic, and in cases of anaemia produces wonderful results in a very short time by restoring the blood to its normal condition. Perhaps the best preparation that can possibly be given in such circumstances is the fresh carbonate which is produced by the chemical decomposition which takes place in Blaud's pills, if these are properly prepared. The sulphate of iron is combined in these pills, along with carbonate of soda or potash, mixed with a little gum tragacanth. They are prepared with these ingredients in a dry condition, so that the two salts retain their integrity until they become mixed with the fluids of the stomach, when the sulphate of iron becomes transformed into the carbonate, and the carbonate of potash into the sulphate. Absorption of the iron then takes place, and more readily than if the carbonate of iron had been prepared in a laboratory.

It is always desirable in prescribing Blaud's pills to combine with them a small portion of aloes, which tend to keep the bowels in a state of action, and thus promote the medicinal effects of the iron. The tincture of iron, or steel drops, is either prepared from the per-chloride or from the action of muriatic acid upon iron filings or wire, the latter, or the muriate of iron as it is called, being preferable to the per-chloride. The tincture of the muriate of iron, as well as that of the per-chloride, has powerful antiseptic qualities, and the former especially seems to have a specific effect upon erysipelas if given in ten-drop doses every two hours. The sulphate of iron, or green vitriol, is also frequently administered as a blood tonic, either in solution or in the form of pill. Other preparations, such as ammonia tartrate and citrate, combined with quinine, are very useful preparations, and possess the advantage of being soluble in water. Chemical food, or Parrish's syrup, contains iron in the form of phosphate, and is very popular in children's diseases on account of its being so easily taken. Another pleasant mode of giving iron is in the form of the saccharated carbonate, and in combination with arsenic it forms the arseniate of iron, in which form it acts both as a blood tonic and nerve tonic combined. The principal waters containing iron are those of Harrogate, Tunbridge Wells, Moffat, and various other places which do not possess any more than local reputation. During the administration of iron the evacuations of the bowels always become dark, or even black in colour, and this is due to its combining with matter within the intestines containing tannin. The grand point to be observed in taking iron as a medicine is to see that it is given in small and repeated doses, or in a state of great dilution with water.

*Issue* is a sore artificially produced and kept open by means of some foreign matter being introduced into it. It is employed as a powerful counter-irritant in affections of

the brain and in inflammatory diseases of a chronic character. It is, in fact, a more severe remedy than blistering ; formerly it was held in higher estimation than at the present day.

*Itch*, or *Scabies*, is a highly contagious parasitic disease of the skin. It is characterised by an eruption of small pointed vesicles, which confine themselves largely to the flexures of the joints, especially those of the fingers, toes, elbows, knees, and thighs. It is, however, liable to spread over the skin generally. It is always attended with excessive itching, especially when the person gets warmer than usual, such as in bed, or standing near a fire, or in taking stimulating food or exercise. This disease is produced by a minute insect called the *Acarus Scabiei*, which burrows under the cuticle of the skin and deposits its eggs there, where they are hatched, and produce the intense itching which is characteristic of the disease. It occurs very frequently amongst those of uncleanly habits, and is therefore more often met with amongst the poor, and especially in those whose constitutions are undermined by bad nourishment and clothing. Fortunately, it is a disease which can be easily cured by the inunction of an ointment containing the flowers of sulphur or storax. The latter is to be preferred, because it does not produce such a disagreeable odour, and is quite as efficacious as sulphur. The proper plan to adopt in the treatment of this disease is to put the patient into a warm bath and sponge him thoroughly down with soft soap and water, and, after drying, to rub the body all over with the ointment. This should be continued for at least two days, when, as a rule, the disease will be found to have disappeared. A useful adjunct to this treatment is the administration of sulphur in tea-spoonful doses night and morning. It is needless to state that the clothing which a person affected with this disease has worn, and the bed-clothes in which he has lain, should be thoroughly scalded, so as to destroy any vestige of the

disease which may remain upon these articles. It must be remembered that when sulphur ointment is employed this preparation is liable of itself to give rise to an eruption which should not be confounded with that of the disease. As storax does not produce this unpleasant effect it has this additional advantage over sulphur.

*Jaundice* is a secondary result of disease, either in the liver, gall-bladder, or gall duct, and is essentially blood poisoning, arising from an accumulation of bile within the circulation. It is easily recognised by the colour of the whites of the eye and of the skin, which have a yellow appearance, while at the same time the stools become white, in consequence of the absence of bile in them. On the other hand, the urine partakes of an intense porter-like colour, due to bile being excreted by the kidneys, and often the perspiration even may be tinged. The causes of jaundice are so varied, and the consequences so very serious, that it is essential to call in medical aid on the appearance of the disease. If this is not at hand, then in the first instance a blue pill may be administered, followed within a few hours by a brisk purgative or four grains of calomel combined with a purgative taken at intervals of twenty-four or thirty-six hours. If the disease arises from organic mischief within the liver it is generally incurable, and as a rule is an indication that death is not far distant, whereas if it arises from cold, as it frequently does, thus producing a catarrhal and thickened condition of the gall duct, it will as a rule speedily pass off. This will also be the case if it has its origin in the blocking of the duct by gall-stones, which are in reality only pieces of congealed bile. When gall-stones are the cause of jaundice, these may be readily suspected by the severe colic which their passage through the gall duct gives rise to, and in such circumstances great benefit may be derived by the frequent, even hourly, administration of one or two table-spoonfuls of olive oil. How this acts it

is difficult to say, but that its effects are most beneficial is beyond dispute.

*Jaws*, as is well known, form a portion of the skull, and are employed in the process of mastication. The only important point to be observed is the fact that the lower jaw is liable to dislocation, and this accident frequently arises in a very simple manner. Yawning has been known to produce this deformity ; but it is very easily put right, and great care should be taken that the thumbs of the individual who is reducing the dislocation be well protected by being covered with a thick towel, as the jaws go together with considerable force as soon as the dislocation is reduced.

*Jejunum* is the lower portion of the small intestine.

*Jelly Fish, Stings of the*, are frequently met with by bathers on the sea coast. These creatures have the power of ejecting from their tentacles a poisonous substance which, when coming in contact with the skin, produces redness, swelling, and pain, so much so that a whole limb or a considerable area of the body may thus be affected. The symptoms usually subside spontaneously in the course of three or four days if allowed to do so, but in the meantime they cause considerable suffering in the part affected, and may render the limb useless and cause a great deal of needless anxiety. The best application to make in these circumstances is an alkaline solution, such as a weak solution of ammonia, bi-carbonate of soda or potash. It is of no material consequence what strength be employed, but a weak solution frequently applied will have a better effect than a solution of greater strength.

*Joints*, technically called Articulations—The mobility and exposed situations of the joints render them liable both to accident and to disease. In either case considerable patience on the part of the patient as well as upon the attendant is called for, and absolute rest must be enjoined in any such affection. Although serious disease

may locate itself in the bone or covering of a joint, this can as a rule be successfully treated either by the surgeon (if the use of the knife is required) or by the physician (if medical treatment is applicable). Apart from actual organic disease, the joints are liable to inflammatory attacks, more especially the capsule of the joint which is called the synovial membrane. This membrane provides a thick glairy secretion, which acts as a lubricating substance, just as oil is employed in lubricating machinery. Inflammation of this membrane, or synovitis, as it is called, though common to all the joints of the body, is most frequently met with in the knee, and, as a rule, arises from injury, such as too much kneeling or a blow upon the knee; but it may also result from cold or a rheumatic condition of the part, due to acidity of the blood. Like inflammation of other parts, it is accompanied by severe pain, especially on movement; there is also swelling and tenderness to the touch, and when fluid exists it may be detected by the fact that it yields an elastic and fluctuating sensation to the fingers. When the disease is acute great relief may be afforded by the application of leeches, followed by warm fomentations to encourage the bleeding, and afterwards complete rest should be enjoined. On the other hand, many surgeons advise the application of cold in the form of ice bags, or the application of an evaporating lotion, which extracts the inflammatory heat from the part. The evaporating lotion, however, is mostly applicable in those diseases of joints which are due to direct injury. The various joints of the body are also liable to tubercular disease; especially is this the case with the hip-joint. In such circumstances the aid of the surgeon is generally necessary, and the diseased portion requires excision. At the same time it is essential that the general health be attended to and complete rest enforced, while the muriate of calcium should be given regularly after each meal, for there is no doubt that this useful lime

salt has a specific effect in tubercular disease wherever it may be located.

*Jugular Veins* are the large veins circulating in the neck which convey the blood from the head and face back to the heart. Injury of these veins is always serious, not so much, perhaps, because of the haemorrhage that may result, but from the fact that the air is liable to be admitted into the heart by the exhaust action of the right auricle.

*Kidneys* are those glands which are situated on either side of the spine, just below the region of the liver. Their office, as is well known, is the secretion of urine from the blood. The kidneys are supplied with blood-vessels, which proceed directly from the aorta, or main blood-vessel of the body. The glandular structure is so arranged that the ducts flow into a cup-like cavity called the pelvis or base of the kidney, and this is continuous with a tube leading to the bladder called the ureter. The kidneys are enveloped by a strong membrane or capsule. As is well known, these organs are subject to diseases which often prove fatal, but as these require the skill of the medical man to treat it is beyond the scope of this book to enter fully into them. It may, however, be of great service to note that if the secretion of urine is scanty, this is not necessarily a symptom of disease, as it may be the consequence of a limited supply of liquid being taken into the stomach, while the skin has been unusually active. Scanty urine may also result from nervous exhaustion. On the other hand, a free and limpid flow of urine may be due to nervous excitement, and this is especially the case in nervous and hysterical women. When the urine deposits a red sediment on standing, one is apt to blame the kidneys for this. This, however, is an error in many instances, as the most frequent cause of this deposit is an acid condition of the blood due to dyspepsia or to a rheumatic or gouty habit. If there is a large secretion of urine, accompanied by excessive thirst and gradually encroaching debility,

diabetes must at once be suspected ; while, if the urine on being boiled becomes thick, an inflammatory affection is probably present, and no time should be lost, when either of these symptoms are present, to consult a competent medical man.

*Knee* is one of, if not the most important joint of the body. It is formed by three bones, viz., the extremity of the thigh-bone or femur, and the upper extremity of the tibia or large bone of the leg, and the knee-cap or patella, which lies in front of the joint and is attached to the large muscles of the front of the thigh by means of a powerful ligament, and also to the tibia or leg-bone by another ligament of equal strength. It is a joint which is very liable to both serious disease and injury, and being complicated in its nature is therefore somewhat difficult to treat. The rounded ends of the thigh bone rest upon two concave surfaces on the expanded head of the bone of the leg. These concavities are surrounded by cartilaginous cushions called the semi-lunar cartilages. The knee-cap protects the joint in front, and acts to a great extent the part of a pulley, while the several parts of the joint are bound together by strong ligaments. The whole of this, as other joints, is covered by a dense cartilage, which is a most elastic body, and prevents concussion to a large extent. The knee-joint is liable to inflammation, either of an acute or chronic nature, caused by violence or wounds, or as a result of a diseased condition of the blood, such as rheumatism, gout, or tuberculosis. Whatever be the cause of the disease, it should at once receive serious attention by a competent medical man. If the joint has been opened by accident, the first course to be adopted in the absence of a surgeon is to cleanse it as quickly as possible with carbolic lotion, one in forty at least. Close the wound by means of a pad soaked in this lotion, and afterwards place and keep the leg in position by means of a splint secured by appropriate bandages, and to prevent the onset of

inflammation ice bags should envelop the injured parts. The patient at the same time should be kept on nutritious but simple diet, and constipation carefully avoided. Before the application of antiseptics was introduced, an injury to the knee was almost tantamount to its complete destruction ; now, however, by preventing decomposition within the cavity of the joint, no such fear need be entertained. When the knee-joint swells to an inordinate degree, this is generally due to inflammation of the synovial or lubricating membrane, and if this is accompanied by redness and tenderness to the touch, leeches should be applied freely round the joint, to be followed by repeated and prolonged hot fomentations, never of course forgetting that absolute rest is also essential in such cases. White swelling is a disease naturally very much dreaded, as it very frequently culminates in complete destruction of the parts composing the joint. It is due to the deposit of tubercle, and of course requires to be treated as much constitutionally as locally. Till medical aid is called in, the part must be kept at perfect rest, and the inflammation and swelling treated by cooling applications together with anodyne lotions freely applied. Hot fomentations freely sprinkled over with a liniment composed of two drachms of menthol, and dissolved in two ounces of belladonna liniment, will give considerable relief. The tubercular symptoms may be successfully treated by the administration of muriate of calcium regularly after food in from ten to twenty-grain doses, while the general strength must be maintained by a liberal supply of easily assimilated nourishment. This disease, however, may not in every case be amenable to medical treatment, and frequently it has been necessary to perform amputation to get quit of the disease. Various accidents may occur to the knee-cap, such as fracture or dislocation. These, of course, require surgical aid, and no time should be lost in obtaining this. Housemaid's knee is an inflammatory

condition of the synovial membrane of the sac by which the knee-cap is surrounded. It is not usually a painful disease, and, as a rule, may be successfully treated by a succession of blisters applied over the seat of the swelling. Sometimes, however, the disease may be acute and go on to suppuration, when, of course, it requires to be opened and treated as an ordinary abscess.

*Koumiss* is fermented milk prepared by causing natural fermentation. When milk is fermented in the process of producing koumiss, carbonic acid gas is generated to a large extent, so that great care must be taken in opening the bottles, or the whole of the contents will be expelled, and the fluid lost. It is a useful article of diet in cases of irritability of the stomach, and at the same time is most nutritious and very easily digested. Originally it was prepared from mare's milk, but now cow's milk is largely employed for the purpose, and is recommended by medical men in various forms of debilitating disease, as, besides being a most nutritious, it is a refreshing and also agreeable beverage.

*Labour.* See *Child-birth.* See "Woman in Health and Sickness."

*Laburnum* is that common flowering shrub having yellow flowers which develop into pods. Many instances of poisoning have been recorded in consequence of children eating the seeds contained in these pods. The symptoms produced are, vomiting, stupor, vertigo, pain in the stomach and head, followed by delirium, and afterwards collapse. The proper treatment to adopt is, to get the stomach emptied as quickly as possible, and sustain the vital powers by means of stimulants either administered by the mouth or by injection.

*Laceration* is the term applied to wounds which are produced by tearing of the tissues. The wound should be immediately cleansed, and an antiseptic solution, such as carbolic lotion or bi-chloride of mercury in a weak solution,

applied. If the wound is cleansed, putrefaction may be prevented by dusting it over with iodoform, aristol, or boracic acid; but if none of these remedies are at hand, a weak solution of Condy's fluid may be applied until the parts can be properly dressed.

*Lactation* is the secretion of milk, and may be promoted, if the mammary glands remain inactive, by the application of poultices composed of castor-oil leaves. As a rule, however, a deficiency of milk is difficult to remedy. See "Woman in Health and Sickness."

*Lacteals* are those ducts which convey fluids prepared for the nutrition of the blood in the processes of digestion and assimilation.

*Lameness* arises from so many causes that it will be necessary to refer to the different joints involved in the movements of the body.

*Languor* is a general symptom of disease; true, it may be due to over-indulgence, but even in this case it is an indication of an unhealthy condition of the muscles. A febrile condition cannot exist without languor being also present; therefore, whenever a person complains of being languid without a cause, it is necessary to find this out, as frequently very serious disease is manifested in the first instance by a feeling of languor.

*Laryngitis* is inflammation of the lining membrane of the larynx, which is situated in the upper part of the wind-pipe. It is generally due to exposure to cold and damp, or to the inhalation of some irritating vapour. It may also be produced by the local action of some irritant, such as boiling water or carbolic acid. The symptoms are very similar to those of croup or diphtheria, but may be distinguished from these by the cause which has excited the inflammation. The symptoms are—hoarseness, difficulty in inhaling air (sometimes producing such a sensation of suffocation as to give rise to lividity of the countenance), and a very feeble but rapid pulse. If the inhalation of

steam does not give immediate relief, it may be necessary to open the windpipe, and thus permit the admission of air to the lungs; so that in any case it is imperative that medical aid be called in.

*Laryngoscope* is an instrument so arranged that the interior of the larynx can be examined by means of a mirror placed at the back of the throat upon which a strong light is reflected. By this means the various diseased conditions of this important portion of the air passages can be accurately ascertained, and by its aid operations can be performed which at one time would have been quite impossible. The instrument consists of a small mirror fixed to a long handle, while another mirror is fixed by means of a band to the brow of the physician, from which the light from a powerful lamp is reflected on the mirror held at the back of the mouth. Before the mirror is introduced into the mouth it is necessary to warm it slightly so as to prevent it being covered with condensed vapour from the breath. The patient to be examined is placed on a chair at the side of the lamp, and he is instructed to draw out the tongue, while he opens the glottis by repeating "Ah! Ah!" The laryngoscope requires very great dexterity in its use, but as science is progressing there are very few of the younger members of the medical profession who have not been instructed in its manipulation. It is one of the triumphs of modern medicine, and has been the means not only of affording considerable relief to patients suffering from affections of the air passages, but in many instances of saving life.

*Larynx* is the organ of voice which contains the vocal chords, and is situated at the upper portion of the windpipe.

*Laudanum*, or Tincture of Opium, is one of the most useful medicines which we possess; it is employed largely by the physician and surgeon, and not only by these, but as a household remedy, though one which should not be

employed extensively. It is prepared by infusing opium in rectified spirits for two or three weeks. It should always be remembered that laudanum, or opium, in any form has a specially narcotic effect upon young children, and the dose may be said to range with the age of the patient up to manhood, one drop being given to a child one year old, two drops to one two years old, and so on ; the maximum dose should rarely exceed twenty to twenty-five drops. In severe cases of local pain hot fomentations upon which laudanum has been freely sprinkled afford considerable relief; especially is this the case in colic. It is also frequently given in injections for dysentery and diarrhoea ; for an adult in such circumstances, thirty drops mixed with two ounces of thin starch may be injected every four hours until relief is obtained.

*Laxative* is the term applied to medicines which have a purgative effect upon the bowels. These are so numerous that it would be quite impossible to detail them in this work. The most popular and useful laxatives which we know of are those natural mineral waters which exist so universally over the whole face of the globe. These, for the most part, owe their properties to sulphate of magnesia, or common Epsom salts. They may be usefully employed when a laxative is required, but always in a very dilute solution, when the effects are very much more comfortable than if taken concentrated. Castor oil, senna, sulphur, cascara, rhubarb, and magnesia may also be enumerated amongst the more popular laxatives.

*Lead* is a most important metal, both because of its poisonous and medicinal properties. Lead has the peculiarity of being, to a certain extent, soluble in pure water ; it is therefore essential that lead pipes should be avoided in certain localities, especially where the water is soft and free from lime. Leaden cisterns are also pregnant sources of lead poisoning ; but as it is always risky to drink water out of any kind of cistern, these should be

avoided entirely for domestic purposes. Lead is also to a certain extent volatile, and lead poisoning very frequently results in factories where this metal is being manipulated, not only through the atmosphere, but also by absorption in consequence of the skin coming in frequent contact with it. The salt of lead, which is most frequently employed in medicine, is the acetate, or as it is most commonly called, the sugar of lead, in consequence of its sweet taste. It is given internally in obstinate diarrhoea, and, as the lead and opium pill, is frequently prescribed in the diarrhoea of typhoid fever. As an external application it enters into the composition of Goulard's extract, lead plasters, and as a lotion in diseases of the eye and ulcers of the skin. It should never be used in stronger solutions than about five grains to the ounce. When lead is taken into the system in minute doses for a prolonged period it produces obstinate constipation, associated with severe colic, which goes under the name of lead colic. Painters, type-founders; and workers in lead generally are most liable to this affection. Lead poisoning may generally be detected by the appearance of a blue line which forms round the margin of the gums, and frequently paralysis of the wrist, or as it is popularly called, "drop wrist," results from the effects of this metal. The treatment in such cases is to remove the patient from all risk of poisoning, and administer iodide of potassium three or four times a day, in from five to ten-grain doses.

*Leeches* are an invaluable aid in the treatment of certain diseases, notably those of an acutely inflammatory type, and also in sprains, if they are applied with sufficient promptitude. The general appearance of the leech is so well known as not to require any description here. Those leeches which are used for medicinal purposes are mostly imported from the south of Europe, but come by way of Hamburg, where they are collected by merchants from different parts of the Continent. They are also found in

India. When it is desirable to apply leeches to a part, the surface of the skin should be thoroughly cleansed with pure water, then dried, and the leech held in position by means of a paper box or a tube made for the purpose. When the leech has become sufficiently gorged with blood it usually falls off, and may be made to eject the blood which it has drawn from the patient by applying salt to its extremities. The leech bite is peculiar in its character, and frequently not a little difficulty is experienced in checking the bleeding. This may be effectually accomplished by pressure, by means of a pad tightly bound down over the wound. The general rule, however, is that bleeding from leech bites requires some little encouragement, and this may be done by the application of warm water, not hot water, as this is liable to coagulate the blood and prevent bleeding. Some constitutions are liable to inflammatory attacks of the surface of the skin surrounding the leech bites ; it is then better to resort to some other plan of blood-letting if this is the case. The most important affections which are influenced favourably by the applications of leeches are—acute inflammatory attacks, such as pleurisy, inflammation of the joints, peritonitis, inflammation of the membranes of the brain, etc. The severe pain of a sprain will be very quickly relieved by the application of four or five leeches around the ankle or wrist, as the case may be. This is not very generally known, but it is a remedy which can be so easily applied, and is so very helpful, not only at the time, but in the future treatment of the injury, that it may be resorted to even by the unprofessional.

*Leg* is a portion of the lower extremity, and extends from the knee to the ankle. It is formed of two bones, the tibia and fibula, the former being the large bone of the leg which supports the entire weight of the body. The upper portion of this bone forms a part of the knee-joint, but the fibula does not enter into its composition, but at the lower

extremity of the leg the fibula takes an important part in the formation of the ankle-joint. Both of these bones are liable to fracture.

*Leg, White, or Phlegmasia Dolens*, is one of the most troublesome affections which follow child-birth. It arises from an inflamed condition of the veins causing coagulation within these vessels, and therefore obstruction to the return flow of the blood. It is generally preceded by shivering, and is always accompanied by fever. The leg becomes swelled up, bright, glistening, and painful to the touch. The thigh, especially the parts about the groin, feel hot, stiff, hard, and painful, and frequently the size of the leg may be increased to double its bulk. The most judicious treatment to apply in these circumstances is to keep the leg elevated and moistened at frequent intervals with hazeline, while gentle friction may also be made during its application, but the rubbing must always be upwards towards the body. The bowels must be kept freely open, either by mild laxatives or by enemata. If the pain is excessive this may be soothed by the administration of one grain of opium at intervals of three or four hours. This disease invariably leaves the limb very much weakened for a considerable period after convalescence has set in; the limb, therefore, should be rested as much as possible, and gentle friction made (always upwards) with a continued application of hazeline, either as liquid or in the form of ointment. After each rubbing an elastic bandage, not exerting too much pressure, should be applied so as to support the parts. In every instance it is essential that medical aid be called in. See "Woman in Health and Sickness," by the Author.

*Lemon*.—This well-known and popular fruit is generally cultivated in France, Italy, and Spain. It is the juice of the lemon that is employed in medicine and for domestic purposes generally, although the rind is also a domestic article, being used for flavouring purposes and the orna-

mentation of pastry. The acidity of this fruit is due to the presence of citric acid, and when mixed with alkalies in solution it produces a pleasant effervescent drink. It is a popular remedy for rheumatism, and has no equal in the treatment of scurvy. It is not only curative but preventative in this disease. Lemon juice or lime juice should invariably be taken on board ship when a long voyage is in prospect. When lemon juice is given in combination with Vals water it not only forms a palatable drink, but is extremely useful in rheumatic affections wherever the disease may be located. Salt of lemon, which is sold for removing stains of ink, is not a preparation of lemon at all, and as the name may lead to serious results, seeing that it is a poisonous substance, great care should be exercised by those who use it for laundry purposes.

*Lens.*—The crystalline lens of the eye is that transparent disc lying behind the pupil. The shape of this lens and its position, together with its translucency, have the most important bearings upon vision, while its opacity constitutes that disease which is known as cataract, and removal of the cataract is simply the removing of the opaque lens. See *Eye*.

*Lentils* belong to the pea tribe of plants, and are a most nutritious article of diet when they are properly prepared. They are also very easy of digestion and assimilation, and are frequently of great service in the dietetics of dyspeptics. Lentil soup has of late become a popular article of diet, and as it can be made at small cost, its popularity should still further increase. It is both nourishing, easy of digestion, and contains a large proportion of nitrogenous matter, or flesh-forming substance. It also contains a large proportion of phosphates; it thus tends to promote the nutrition and development of bone. As is well known, lentils, in the form of flour or meal, are sold under the name of revalenta.

*Leprosy* is a loathsome disease of the skin characterised

by thickening and ulceration of its surface. Although not probably infectious, it is at least contagious to a considerable extent, and like tuberculosis it is hereditary, and indeed would appear to be closely allied to this disease.

*Lethargy*, or an unnatural tendency to sleep and dose, is closely allied to languor and debility, and in many instances would almost appear to verge upon coma. It usually arises from some nervous disturbance, due either to plethora of the blood-vessels of the head or from an opposite condition, which we name anaemia of the brain, or, in other words, it is a paucity of the blood supply to that organ. Lethargy also frequently arises from a poisoned or impure condition of the blood, such as that which is consequent upon constipation, jaundice, typhoid fever, biliary diarrhoea, or a scanty flow of urine. It may be, however, and frequently is, the result of over-indulgence in intoxicants and narcotics, and often the difficulty has arisen to determine whether an individual in a lethargic condition is suffering from disease or from some toxic condition of the blood. Great care should always be taken therefore to differentiate between the two ; especially does this advice apply to persons in a public or official position.

*Leucorrhœa* is a white, milky-looking discharge which exudes from the vagina in women who are suffering from a catarrhal affection of that canal or of the womb. It is always a symptom of disease, and should be treated with as little delay as possible, as it invariably tends to propagate itself, and not only to do this, but to encroach upon the healthy mucous membrane higher up in the genital tract. When the discharge becomes greenish or yellowish this fact indicates that the lining membrane of the womb is probably affected, and as a rule concomitant symptoms are liable to develop in the nervous system. The patient becomes dejected, irritable, easily fatigued, and oftentimes most unreasonable in her whole demeanour. These symptoms are generally aggravated just before the menstrual

periods, while at the same time the congestion that exists in conjunction with this discharge renders menstruation excessively painful. The treatment to be adopted should always embrace the daily use of the vaginal douche, the liquid employed being rendered antiseptic by the addition of boracic acid, carbolic acid, or the bi-chloride of mercury, and it should always be used as hot as the patient can bear it. See "Woman in Health and Sickness," by the Author.

*Lice*, or *Pediculi*, are probably the most loathsome of all parasites. Want of cleanliness is always associated with these loathsome creatures. Mercury applied in the form of ointment is the most effective agent to employ for their destruction. The ova or nits which become attached to the hair may be destroyed by the free application of acetic acid.

*Lichen* is a form of skin disease characterised by elevated and scaly points. It, like all other diseases of the skin, is due to an unhealthy condition of the integument, and can only be relieved by restoring this to its healthy condition, which will necessitate the sufferer applying for medical advice on the subject.

*Life*.—In a work of this kind this subject can only be considered as to its duration. Such a variety of circumstances exercise their influence upon the duration of life that it will be quite impossible even to enumerate them in the space that can here be devoted to the subject. There is no doubt, however, that in children especially the mortality might be very much reduced were dietetic rules and hygienic laws, especially as regards clothing and ventilation, more rigidly enforced, and this pertains not only to the years of childhood, but also to those of youth and maturity. The more naturally an individual is fed, and the more conscientiously he observes the laws of nature, the greater are his chances of longevity—*e.g.*, eating and drinking to excess, and especially partaking of indigestible

foods and the indulgence in alcoholic stimulants, though acting slowly, gradually undermine the system, and by inducing faulty action of the various organs invariably result in an untimely death. Then, again, living in an overcrowded and vitiated atmosphere, by lowering the vitality of the individual, renders him more liable to disease, and consequently adds to the risks of his being carried off prematurely. Dr. Farr's table, extending over a period of thirty-four years, yields the following statistics:—

	MALES.	FEMALES.
All ages, -	23	21
Under 5 years, -	72	62
From 5 to 10, -	8·7	8·5
From 10 to 15, -	5	5
From 15 to 25, -	8	8
From 25 to 35, -	10	10
From 35 to 45, -	13	12
From 45 to 55, -	18	15
From 55 to 65, -	32	28
From 65 to 75, -	67	58
From 75 to 85, -	147	134
From 85 to 95, -	305	279
From 95 and upwards, -	441	430

N.B.—The figures, of course, represent the deaths of every thousand living.

The average life of the middle classes would appear to be 45 years, that of tradesmen and their families 39 years, and that of labourers, servants, and their families 34 years. Doubtless the variations in these instances are largely due to more careful living and better ventilation in the longer lived as compared with those whose longevity is shorter. Then, again, it is ascertained that in country districts longevity is greater than in towns, and this evidently is accounted for by the simpler mode of living which obtains in the country than that which is prevalent in towns. Of late years it is well known that longevity has increased considerably, and this, without a doubt, is only accounted for by the fact that sanitary legislation has become more advanced and hygienic precautions more rigidly observed by the population at large.

*Life Assurance* is a security which every man at least should take advantage of. The great objection to it by men who have capital involved in large business undertakings is the excessive rates that are charged by the majority of insurance companies. This difficulty, however, has been done away with largely by the introduction of new systems by which the premiums are fixed upon such a basis that they are calculated to meet every claim that may become due, while the insurer pays separately to the company so much per thousand for carrying on the business of his insurance. Truly such companies cannot lay up the enormous reserves which the old-system companies have been able to do; but as these reserves have all come out of the pockets of the policy-holders, it stands to reason that there is an amount of injustice in their method —*e.g.*, there is a company which, although it charges from 15 per cent. to 20 per cent. less than the majority of the old-line companies, in a period of fifty years received eleven million sterling as premiums, and during that period only paid out little over five millions in actual death claims, showing palpably that the policy-holders had been very much overcharged during that period. An American company, the Mutual Reserve Fund Life Association of New York, has now been in existence a little over ten years, and, after paying all its claims, it has been able to accumulate nearly one million sterling. This company is conducted upon the assessment principle, which is to levy upon its living members a sum sufficient to meet the accumulated claims, with an addition of one-third to provide for any contingency. As a protection, there is a limit at each age on the amount called. One company has since been started in England upon economical lines, viz., the British Natural-Premium Provident Association, Limited, which conducts its business upon what is known as the “natural-premium” plan—*i.e.*, it collects in advance sufficient in premium to cover the Institute of Actuaries’

mortality table, with one-third added, returning to policy-holders all surplus after the end of ten years. Its premiums are invested in trust for the sole benefit of policy-holders, while they collect separately their expenses of management.

*Lifting Children* so frequently results in injury to the little ones that it is necessary to caution not only nurses but parents of the danger of raising them up by the arms and swinging them about when held in this position. Frequently sprains, dislocations, and fractures have been induced by this carelessness on the part of those who ought to know better. See "Our Children : How to keep them well and treat them when they are ill," by the Author.

*Ligaments* are composed of dense fibrous inelastic bands which bind the bones together and retain them in position.

*Light* is essential to the existence of man ; nothing is more depressing than darkness, and no greater punishment can be endured than that of being precluded from the influence of this beneficent agent. It is a well-known fact that, in certain valleys where light penetrates very feebly, the children produced there are apt to become deformed and dwarfed. In fact, light is almost as necessary to the maintenance of health as fresh air and pure water are ; it is, therefore, most desirable that dwellings should be so constructed as to admit light freely, and it will be found that houses constructed on this principle will be less liable to harbour infectious disease than those into which light is not so freely admitted. There is not the slightest doubt that the action of the sun has a powerfully destructive effect upon the germs of disease, and is nature's best disinfectant. As is well known, light has a most powerful stimulant effect upon the eye, so much so that when it is excessive it may produce inflammation in that organ by the bright glare, and even blindness is liable to occur in Arctic regions from the excessive glare of the snow.

*Lightning* produces injury or death by its action upon the nervous system, although it also produces local injury by its scorching effects. Individuals who are prostrated, but not killed, by lightning invariably suffer from temporary, if not permanent, effects upon the nervous system, such as blindness and insensibility. In such cases it is essential that the animal warmth be maintained, which, in consequence of the shock, is liable to become diminished. If the respiration is feeble and tends to cease, then artificial respiration may be advantageously employed, just as in the case of drowning. A little stimulant, such as sal volatile or brandy, may also be administered, and a mustard poultice applied across the region of the stomach and heart, and also to the spine. Many accidents from lightning occur from want of knowledge on the part of those who are suddenly overtaken by a thunder-storm. In such circumstances the open fields, although the individual is exposed to the drenching rain, are much safer than when shelter is taken under trees or at the side of buildings, as these attract the electric fluid and thus expose those seeking shelter to much greater risk. Umbrellas should not be used for this reason, and contact with metallic objects should be carefully avoided. It is also dangerous to sit in a draught when a thunder-storm is prevailing, such as between the window and the fire, or the door and the fire, as this seems to exercise considerable influence on the course of the electric fluid.

*Lime* is the oxide of calcium. Calcium, however, also combines with acids, such as carbonic acid, when it forms marble, chalk, or lime-stone rock; with chlorine, when it forms the chloride of calcium; sulphuric acid, when sulphate of lime or gypsum is the result; sulphur, when sulphide of calcium is the product, etc. Quick lime is formed by expelling the carbonic acid from a carbonate by means of heat. On exposure to the atmosphere, however, it rapidly absorbs carbonic acid (for which it has a

strong affinity) and water, and is again converted into the carbonate of lime. As is well known, lime enters largely into therapeutics as carbonate or chalk, which is employed in the manufacture of chalk mixture and is prescribed in the treatment of diarrhoea. Chloride of calcium possesses very valuable therapeutic properties, and is one of the most useful remedies in tubercular complaints, and also where there is malnutrition from inactivity of the absorbents of the intestine. Lime dissolves very sparingly in water, so that a saturated solution, which goes under the name of lime water, is very readily prepared and can be manufactured at a very nominal cost. This preparation is largely employed as an antacid, and is specially useful as an addition to the dietary of children, rendering milk very easy of digestion, while at the same time it provides lime for the formation of bone. Equal parts of lime water and olive oil were at one time largely employed in the treatment of burns. Carbonate of lime, or chalk, is a powerful antidote in carbolic-acid poisoning, while it is well known that chloride of lime, or rather chlorinated lime, by parting with its chlorine so readily, is a powerful antiseptic. White-washing walls and roofs with lime also acts as a disinfectant. Burns frequently result from the contact of quick lime with the skin, in consequence of the powerful caustic effect of this substance. These, of course, must be treated as ordinary burns.

*Liniment* is an application which is made to the skin in cases of congestion or inflammation of an internal organ or a joint. It usually contains a counter-irritant as well as a soothing agent, the counter-irritant acting upon the nerves and blood-vessels of the surface, thus influencing the disease in the internal organ. Liniments are also composed of soothing substances, such as menthol, chloroform, belladonna, and opium.

*Lint* was formerly made by scraping old linen, which produced on one side a woolly surface, but now it is

manufactured for immediate use, and is made from cotton instead of linen, both on account of its cheapness and because it is equally as serviceable as that made from linen. As a rule, this substance is rendered antiseptic either by the introduction of boracic acid, salicylic acid, or by being impregnated with some other antiseptic solution, such as that of bi-chloride of mercury or carbolic acid.

*Lip*.—The colour of the lips is due to their being covered by a mucous membrane which is extremely vascular. The colour of the lips reflects that of the blood, and indicates very plainly the condition of this fluid. If anaemia is present, that is to say if the blood is deficient in red corpuscles, the lips become pallid, or if the blood is not properly oxygenated, as in cases of heart disease or pneumonia, they take on the livid appearance, and in extreme cases of jaundice the yellow colouration which the blood assumes is manifested in the lips. The lips are liable to disease, either of a passing or persistent nature. As an example of the former, herpes and fissures may be mentioned, and of the latter, cancer. The lips are also liable to be the seat of cysts, which, however, can be easily removed.

*Liquorice* and *Liquorice Root* are obtained from the root of a pod-bearing plant, and are generally imported from Spain and Southern Europe, but the plant is also cultivated in this country. The extract of the root is known as liquorice, or Spanish juice, and is largely employed as a demulcent in coughs and irritation of the throat. It is also taken in cases of heartburn and in constipation. It does not disorder the stomach like common sugar, and its taste persists for a considerable time after it has been partaken of. It forms the basis of many sweetmeats, such as delectable lozenges, jujubes, and Pontefract cakes. The powdered root enters largely into the composition of a very popular laxative medicine which goes under the name of

compound liquorice powder; the purgative properties of this, however, depend largely upon the powdered senna and sulphur which it contains.

*Lithia* is a metal which, when combined with benzoic acid, carbonic acid, and citric acid, is frequently employed in the treatment of gout. It has a powerful diuretic effect, and promotes the excretion of urate of soda from the blood; it is therefore largely given in gravel and renal calculus, depending upon the deposit of uric acid in the urinary organs. The dose of these salts is from three to six grains given three or four times a day in solution with water, or it may be taken in an effervescing form, as lithia water.

*Lithotripsy*, or crushing the stone within the bladder, has now very much taken the place of lithotomy, as by this means the stone is crushed into such small particles as to permit of its being washed out by means of a large-sized catheter, thereby doing away with the necessity of cutting. Many risks are thereby avoided, although it must be confessed that there are certain contingencies which may produce unpleasant results even when lithotripsy is practised.

*Lithotomy* is the operation of cutting down upon the bladder for the extraction of stone. In former years the ordinary method of operating for stone was by cutting into the base of the bladder from below, whereas at the present time supra-pubic operation is generally employed, which consists in entering the bladder from above through the abdominal wall.

*Liver* is the largest of all the glandular structures of the human body, weighing on an average about four lbs. in the adult. It occupies the upper part of the right side and right front of the abdomen, just beneath the diaphragm and pyloric orifice of the stomach. It is attached to the diaphragm by ligaments composed of peritoneum. The liver is divided into various lobes, but it is generally

considered to consist of a right (which is the larger lobe) and the left (which is smaller in size). The gall bladder occupies the fore part of the under side of the right lobe. The structure of the liver is lobular, each lobule being about the size of a millet-seed, which is composed of capillary blood-vessels and of cells which separate glycogen and bile from the blood, together with ducts which convey the secreted bile into the larger common ducts; these again converge to the one main duct of the liver, through which the bile flows either into the gall bladder or into the duodenum direct. The glycogen secreted by the liver becomes transformed into fat, and the bile on entering the duodenum aids in the digestion of food, and also produces a laxative effect upon the bowels. The circulation in the liver is very extensive, and it is from the fluid circulating in this gland that the aforesaid substances are extracted. The liver is a large organ, yet it is frequently blamed for conditions of the system with which it has no connection. It is easily thrown out of order, however, especially when constipation exists and when anything interferes with the action of the heart. It is specially liable to disease in those individuals who indulge inordinately in the use of alcoholic liquors. Intemperance, therefore, is frequently the cause of enlargement of this organ, in consequence of the inflammatory action which its absorption produces. The enlargement may go on for a considerable time, but when the disease has attained a certain point the change is reversed and contraction of the organ takes place, so that cirrhosis, or gin drinker's liver, is established. This is characterised by a hard condition of the organ, which usually results in its becoming unable to perform its proper functions, and gradually jaundice supervenes, speedily followed by death. The liver is also liable to inflammation, when feverish symptoms, accompanied by severe pain and tenderness on pressure over the right side, will be the prominent symptoms. Of course, in such

circumstances medical aid must at once be called in. Sluggishness of the liver is generally indicated by a paucity of bile appearing in the stools, and probably an excess being present in the urine. What, however, is usually termed biliousness is quite as frequently attributable to ordinary dyspepsia combined with constipation without anything being actually wrong with the liver itself. See *Biliary Disorder, Gall-Stones, Jaundice, etc.*

*Lochia* are the discharges which occur after child-birth. The appearance of this discharge indicates very clearly the condition of the patient. If it remains free from odour no anxiety may be felt for the patient, whereas if it becomes foetid urgent measures should at once be taken to remove the cause. Many valuable lives have been sacrificed by want of attention to this very important point. See "Woman in Health and Sickness," by the Author.

*Lockjaw* is the popular name for Tetanus. The severe spasm which affects the muscles of the jaws in this disease, although a prominent symptom, is not the only one which exists, as all the muscles of the body are more or less seriously involved. The effects of tetanus very much resemble the symptoms produced by strychnine poisoning. It has recently been ascertained that this disease is highly contagious, and is frequently transmitted to human beings from horses affected with the disorder. It is undoubtedly due to the introduction of a special germ into the wounded surface, and this germ appears to exist within the soil of different localities. The germ acts specially upon the nervous system, producing the violent spasms which are characteristic of the disease. Many remedies have been suggested for the treatment of this painful and dangerous affection, amongst which may be mentioned the administration of chloroform vapour, calabar bean, chloral, etc., but recently a much more successful method of treatment has been introduced, this being the injection under the skin of the attenuated virus of tetanus, or the antitoxine of

Tizzoni and Cattani. This disease, however, invariably requires the attention of a medical man.

*Longevity*, or Prolonged Life, is popularly believed to be hereditary; people, however, should not calculate upon this as an invariable fact, as frequently the longest-lived parents have a very short-lived progeny, whereas parents who have died young have frequently born children who have lived to a good old age. It is also a fact that those who in infancy and childhood have shown indications of great weakness have survived till they have attained ages long beyond the orthodox three-score years and ten. Old age very much depends upon the care that is taken by the individual when he has had youth and middle age on his side. If the age of forty-five is passed in robust health and the individual is of steady habits, his chances of longevity are very good indeed.

*Lotions* are liquid applications composed of various substances in solution with water. They are employed for diseases of the eye, when they contain an antiseptic solution combined with an anodyne, such as the following:—Five grains of sulphate of zinc, thirty drops of laudanum, and one ounce of water, or one grain of bi-chloride of mercury, half an ounce of wine of opium, and four ounces of rose water. A tea-spoonful of either of these may be mixed with a tea-spoonful of hot water and applied to the eye three or four times a day in cases of ophthalmia. There are also stimulating lotions which contain substances such as ammonia, turpentine, or acetic acid. Astringent lotions are those containing tannin in some form or other, such as an infusion of oak bark. Soothing lotions are those which contain only agents such as belladonna, opium, cocaine, menthol, etc. The most important lotion, and one which is most frequently employed, is that which possesses antiseptic properties, such as bi-chloride of mercury, carbolic acid, boracic acid, Condy's fluid, etc. These substances are largely employed in the treatment

of injuries to the surface, or to disinfect the vagina in cases of disease of the womb. An excellent lotion is simply water which has been boiled and then applied to the part as warm as it can be borne.

*Low Diet* is a term which is applied to a modified system of starvation, and therefore should never be resorted to in cases of disease, when all the energies of the individual require to be sustained in the endeavour to combat the disease process.

*Lumbago* is a form of muscular rheumatism attacking the muscles of the loins. It is an extremely painful affection, and especially so when the affected muscle comes into play. It would appear that the excruciating pain which results from movement is due to a large extent to the fact that the sheath of the muscle becomes inflamed and adherent to the muscular tissue ; thus, when the muscle contracts, this acutely inflamed membrane is dragged upon, and gives rise to the suffering which is experienced. Lumbago is generally the result of cold, but it may also be brought about by a sudden false movement, by which the muscular tissue is strained and inflammation set up from this cause. It resembles very much cric in the neck. When lumbago is present the treatment should always be commenced by a smart purge, after which the patient should take a hot sitz-bath for half an hour, and then the affected part should be well rubbed over with the following liniment :—Menthol two drachms, chloroform half an ounce, belladonna liniment one ounce and a half. This application may be rubbed in at intervals of two or three hours, and ten drops of the tincture of *actaea racemosa* taken in water every two hours. The patient should keep his bed for a day or two, and during the intervals between the applications of the liniment a hot-water cushion should be placed in such a position that he can lie on it, and thus keep it in constant contact with the affected part. After a day or two a system of

massaging the part will prove of very great service, as by this process the adhesions of the sheath to the muscle will separate, and thereby the muscle be enabled to perform its movements without dragging upon the inflamed membrane. The best preventative against lumbago is to keep the loins comfortably warm, and employ considerable friction over the parts every morning when taking a bath.

*Lumbar*, or belonging to the loins, is the region occupied between the ribs and the haunch bones. In delicate children it is not unfrequently the seat of abscess, and, as has been stated in the previous article, it is an affection of the lumbar muscles which constitutes lumbago. Pain in the lumbar region is also symptomatic of many diseases, such as small-pox, influenza, and other febrile disturbances.

*Lumbricus*, or Worm, is the name generally applied to that special kind of worm which in many respects resembles the common earth-worm. It is readily removed by the administration of santonine, which should always be given on an empty stomach, and followed by a purge of castor oil.

*Lunacy*. See *Insanity*.

*Lungs* are those spongy-looking and vascular organs which are entirely engaged in the function of respiration. They occupy the two sides of the chest, the left lung being smaller than the right, on account of part of the space on that side being occupied by the heart and large vessels. The air passes into the lungs by means of the windpipe, or trachea, at the top of which the larynx, or box of the voice, is placed. At its lower extremity the windpipe bifurcates into the two bronchi, one of which passes into each lung. These bronchi again divide and subdivide into innumerable branches, which ultimately terminate in the air-cells. These air-cells are minute cavities covered with a delicate membrane in which ramify innumerable minute capillary vessels which bring the blood into contact with the atmospheric air, and thus secure its oxygenation,

while at the same time the carbonic acid which has been generated within the system is thrown off and ejected in the process of expiration. This transmutation of gases is brought about by the process of osmosis, and when this is interfered with in any way, either by disease or mechanical means, carbonic acid is retained within the blood, and acts as a direct poison, producing death by asphyxia. The tubes, the air-cells, and the blood-vessels of the lungs are all held together by connective tissue, and the entire organ is enveloped by a membrane which covers the whole surface and that of the inside of the thorax. This surface is lubricated by a fluid which enables the lungs to move freely and painlessly within the chest. When this membrane is inflamed its surface becomes roughened, and then each movement of the chest is attended with acute pain, this diseased condition being termed pleurisy. The trachea, or windpipe, and the large bronchi are composed of cartilaginous rings united by an elastic tissue. The larynx, which extends from the trachea to the root of the tongue, is the organ of voice, and is easily distinguished by the prominence which is popularly called "Adam's apple." The anatomy of this wonderful vocal instrument is most complex. Into it various cartilaginous ligaments and muscles enter, and the whole of its inner surface is lined by a mucous membrane which is continuous with the mouth, stomach, and air passages generally. The entrance to the larynx is through the glottis, which is of a triangular form, and is protected from injury by a heart-shaped cartilaginous covering called the epiglottis; this closes in the act of swallowing, and prevents foreign matter from entering the windpipe. The movements of the lungs, although to a certain extent under voluntary control, are nevertheless carried on without the consent of the will; they are, in short, involuntary movements, although they can be increased either in volume or rapidity at the exercise of the will. The filling and emptying of the lung

vesicles can be distinctly heard by means of the stethoscope, and their healthy or unhealthy condition can thus be readily detected. In this way disease is easily recognised by the experienced ear. The various diseases which affect the lungs are—bronchitis, bronchial catarrh, pneumonia, pleurisy, asthma, and, last but not least, consumption. Other diseases are of more rare occurrence, such as gangrene or cancer. See special articles.

*Lupus* is a technical name for a skin disease of a most inveterate type. The name is derived from a Latin word meaning wolf, and is used to denote that form of cutaneous disease which is most destructive to the tissue affected. As a rule the disease confines itself to the nose and face, and appears in red patches which are slightly elevated above the surface, and which give off a most offensive odour. The patches are composed of tubercular matter within the meshes of the skin, which, although they do not actually ulcerate, yet exhibit points of great irritation. In the worst forms, however, the tubercles do ulcerate and cause deep excavations and scars. The treatment of this disease consists largely in attention to the general health, the greatest point being the administration of good, nourishing food, together with cod-liver oil. Muriate of calcium combined with the hypophosphites will be found to act almost as a specific in this disease, but this treatment must always be accompanied by the application of an antiseptic ointment, such as the dilute nitrate of mercury ointment, to which may be added aristol and quinine in the proportion of one drachm to the ounce of ointment.

*Lymph* is that fluid which is contained within the lymphatic or absorbent vessels. The name is also applied to fluids which are employed subcutaneously for the treatment of various diseases, such as vaccine lymph, tuberculin, etc.

*Madeira* has long been a health resort for delicate people, and as such is held in high estimation in conse-

quence of its mild and equable climate. Some years ago, however, it fell into great disrepute in consequence of the vile sanitary condition of the island. Its position in the Atlantic keeps it remarkably free from extremes of temperature, so that it is warmer in winter and cooler in summer than places situated on the mainland in the same degree of latitude. It is almost entirely exempt from cold winds, and during the summer months the north-easterly winds which generally prevail at that season maintain the atmospheric temperature much below that of the mainland. At times, however, especially during the prevalence of the Sirocco, which occurs two or three times at most during a season, the temperature may rise to as much as 90° in the shade, but this as a rule only continues for a very few days. With this exception the thermometer rarely rises above 80° in the shade, and the summer temperature averages little more than 70°. The sea breezes which constantly prevail render the heat not nearly so oppressive as it frequently is in the south of England. The atmosphere is rarely sultry, and there is no contamination of smoke or dust to impair its purity. It has been highly recommended as a resort for people who are suffering from a delicate state of the chest; whether, however, in consumption it can compare with the health resorts of the Engadine is a matter of considerable doubt, as the results obtained at Davos Platz are very much more satisfactory on the whole than those which Madeira can yield. In March great care must be taken of the invalid who resides at Madeira, as winds are very frequent during that month, while April and May are very showery. Notwithstanding what the late Sir James Clark says with regard to Madeira, my opinion is that tubercular disease of the lung can be very much more advantageously treated in a higher and drier altitude like that of the Engadine or Colorado than in places such as Madeira or the Canary Islands.

*Madness.* See *Insanity*.

*Magnesia* is an alkaline salt in which the metal magnesium forms the base. What is generally termed magnesia is the carbonate, of which there are two forms, viz., the light carbonate, which is soluble to a considerable extent in water, and thus constitutes the fluid magnesia which is sold in the shops; the heavy carbonate is more employed than the light because of its occupying less space and being more active in its effects. It enters largely into the composition of Gregory's mixture. As an ant-acid and gentle purgative it has few equals, in consequence of its being transformed by the acids of the stomach into a soluble salt, which produces a gentle action upon the bowels. It is also usefully employed as a tooth powder, having many advantages over other preparations which are used for cleansing the teeth. Magnesia in combination with sulphuric acid forms the sulphate of magnesia, or Epsom salts. Citrate of magnesia is usually sold in a granular condition, and effervesces when mixed with water, thus rendering it a very agreeable aperient. The acidity in children which is characterised by sour stomach, green evacuations, heat spots on the body or a tendency to nettle-rash, is very much benefited by giving small doses of magnesia mixed either with water or milk three or four times a day after food. It must always be remembered, however, that magnesia does not act as a purgative unless it mixes with some acid contained in the stomach or bowels, and therefore it should not be given as a routine medicine unless some degree of acidity is suspected, as otherwise it may accumulate and form concretions in the bowels. Fluid magnesia in doses from half an ounce to two ounces will prove a gentle purgative, especially if it be followed with the juice of a lemon mixed in water.

*Malaria.* See *Ague*.

*Malignant* is that term which is applied to diseases such as cancer, ulcers, etc., which are known to have invariably a fatal termination. The term is also applied in cases of sore

throat which occur in the course of scarlet fever, diphtheria, etc.

*Marasmus* is that term applied to wasting, or atrophy, which takes place in certain diseases, such as tubercle, cancer, diabetes, and other organic diseases.

*Marriage* undoubtedly has the effect of prolonging life. It has been ascertained that married women at the age of twenty-five have on an average thirty-six years of life before them, whilst unmarried women on an average have not more than thirty. In men the mortality between thirty and forty-five is about 18 per cent. in the married, but is one-third more in the unmarried, when it reaches about 27 per cent., and if we take a number who have reached the age of seventy we will find that out of every hundred there are only eleven bachelors, while twenty-seven married men out of every hundred may be expected to reach this age. Then, again, statistics go to show that suicide is much more frequent among the unmarried than the reverse. Marriage therefore would appear to conduce both to the physical and mental health ; but although marriage possesses so many advantages, it is beyond doubt a state of life that should not be entered into at too early an age, as early marriages are not only cruel to the wife, but land the husband too soon in the midst of responsibilities which a few years' delay might have done away with altogether. A woman should not marry before she is twenty-five, and a man before he is thirty. As regards the physical and mental development, there is no doubt that both of these advantages are gained by marriages taking place beyond the range of consanguinity. The best nations are those which have intermarried with other nations, and doubtless the superiority of the Anglo-Saxon race is very much due to this fact.

*Mastication* is one of the most important points to be attended to in considering the treatment of indigestion. If mastication is not thoroughly completed, the stomach

has more work to do than its share, and is less able to do it in consequence of the food not having been properly mixed with the saliva before it has left the mouth. If the teeth are deficient in number in persons suffering from dyspepsia, they should be replaced by false teeth, so that the process of mastication may be thoroughly and properly carried out.

*Maw-Worm* is the term applied to the thread-worm which lodges within a few inches of the end of the bowel. They can generally be removed by repeated injections of salt and water. Although frequently occurring in adults, they as a rule are more a child's disease, and in girls sometimes cause considerable irritation in consequence of finding their way into the vagina, and there creating considerable inflammatory action and unhealthy discharges.

*Measles* is one of the eruptive fevers, and as a rule only attacks a person once in a lifetime. It is, however, not quite so uniform in this respect as scarlet fever or small-pox, as I have known a person to have at least three attacks of measles within the space of a very few years. Measles require fourteen days from the inoculation before they attain their maximum intensity, that is to say, eleven days after contact with the poison. The symptoms commence by a running at the nose and eyes, accompanied by an irritating cough and feverish symptoms. There is also shivering, headache, loss of appetite, and possibly vomiting, with slight sore throat. The symptoms do not appear till the fourteenth day after contact, or till the fourth day succeeding the first active symptoms, when an eruption begins to appear, generally on the temples and forehead first, then on the wrists, ankles, and neck, and gradually extends until the whole body is covered. The eruption of measles has a peculiar appearance, assuming configurations of a horse-shoe shape, the colour being reddish-purple, and it is very slightly elevated above the skin. In the course of a few days this eruption gradually declines, and by the

seventh day, as a rule, it will have entirely disappeared, leaving the skin slightly rough. Shortly afterwards the cuticle begins to peel off, so that it is advisable to disinfect the patient every day by means of a bath containing Condy's fluid. The complications which are most liable to attend the course of measles are inflammatory affections of the eye, bronchitis, and pneumonia, while afterwards the kidneys may be the seat of disease, if proper precautions against cold are not taken. If the inflammatory condition of the mucous membrane of the nose and eyes has been very severe permanent injury may result to the eye and to the ear, so that the greatest possible precautions should be taken during the period of convalescence. The fact must not be overlooked that a very malignant or putrid form of measles may develop itself, when the death of the patient is a matter of only a few hours. While measles may be treated (if the disease is very mild) without the aid of a medical man, yet as a rule it is the safest plan to employ one, as so many complications may arise which would puzzle the attendant, and at the same time imperil the future health of the patient. The principal points to attend to in the treatment of this disease are to see that the bowels are evacuated every day, that the patient be kept in bed, not too warmly but comfortably clad, that he has plenty of milk, and milk diet for the first few days, that the room be shaded from light and kept at a moderate temperature, while, if the cough is inveterate or severe, mustard and linseed poultices should be applied to the back and front of the chest, and a small dose of ipecac and squills given by the mouth. The convalescence from this disease should be attended with the greatest care, as exposure to cold and draughts may set up such violent mischief in the parts that have been weakened by the disease as to leave permanent traces of injury in organs such as the ear, eye, chest, and kidneys.

*Medicine*, as a science, has probably made more progress

during the last fifteen or twenty years than it has done during all its previous history. Its advances have been by leaps and bounds, and have all been the result of deep and careful thought, accompanied by experimental research, which have been so largely engaged in by scientific physicians of late years. But even at the present day a great deal of ignorance exists in the profession, and men swell its ranks who have no right to be there. To exercise well and honestly the noble art of medicine is one of the most difficult tasks that can be imposed upon any man. If he speaks the truth he is apt to be misjudged, but if he takes shelter in ignorance he is rarely found out by those who suffer. How many people in all ages of the world, and as much probably at the present time as when ignorance was more abroad, have suffered from the fact that they did not know they were being maltreated, and were unable to discover the man who might have been competent to relieve them of the suffering which they have so long endured. Quackery and deception, unfortunately, are quite as common in the medical profession as they are outside of it, and it is largely practised by men who set themselves up as paragons of all that is right and honest, while they know in their hearts they are deceiving the poor people who have placed their confidence in them.

*Medicines* are so numerous that it would be quite impossible in a work of this kind to enumerate, and at the same time describe, them. The term medicine, however, is usually applied to that which has a purgative effect upon the bowels, and the term is thus well employed, as it is beyond all doubt that the most useful medicines which we possess are those which keep the bowels in a state of healthy action, for thereby we use the greatest precaution that can possibly be taken to ward off disease, and to keep the body in a healthy condition.

*Megrin*, or Migraine, is a neuralgic affection of the head generally confined to one side, and affecting the temporal

nerve. It is a disease which is liable to come and go, but is always associated with a debilitated condition of the system at large, and this is generally combined with constipation causing a sluggish action of the liver. The best remedy for this painful affection is two grains of caffeine combined with eight grains of phenacetin, which may be repeated at intervals of four hours if necessary. This is very much more efficacious than the old method of treatment by quinine, while it does not produce any of the unpleasant sensations which quinine is liable to give rise to.

*Membrane* is a thin delicate tissue possessing considerable strength which covers the various cavities of the body, such as the mucous membrane, which lines the air passages and alimentary canals as well as the various internal organs; the serous membranes, which are spread over joints and the abdominal and thoracic cavities; while the epidermis, or cuticle, is the membrane covering the skin.

*Memory* is that power of the mind which retains impressions, and which we have every reason to suppose is imperishable. How this extraordinary function is performed is a mystery which will probably never be solved. That it only remains while the brain is in a state of health is a well-known fact, but we know that it can be recovered from when the brain again resumes its healthy functions. Loss of memory may always be accepted as a symptom of some cerebral mischief going on, or at all events of some contamination of the blood supplying the brain substance with nourishment.

*Menorrhagia* is an excessive discharge occurring at the monthly periods, and may be due to various causes, such as a congested condition of the womb, or the presence of a polypus within its cavity, or from a weakened condition of the general circulation, when passive congestion is liable to occur within the veins of the womb. It is a disease that is very amenable to treatment, and it is important that its

cause should be removed as early as possible, as it frequently indicates a state of ill-health in the organ, which may proceed to most serious consequences. See *Flooding*. See "Woman in Health and Sickness," by the Author.

*Menstruation*.—The period of womanhood may be said to commence with the establishment of menstruation, or, as it is popularly termed, the "courses." The ovaries and womb prior to this have not attained their maturity, and their functions have hitherto been in abeyance. As the period of puberty approaches, the habits of the girl undergo a marked change. The romping and playful manner gives place to that of timidity and reserve, and shyness characterises her conduct when in the presence of the opposite sex. Her form also undergoes considerable alteration. The bust and other portions of the body develop, and the whole contour becomes more rounded and attractive. The approach of menstruation is accompanied by a sensation of fulness and weight in the neighbourhood of the womb, and sometimes there is a bearing-down feeling. The girl complains of lassitude, and possibly of slight itching and swelling of the external genitals, and a painful enlargement of the breasts. Not unfrequently nervous disorders, such as St. Vitus' dance and hysteria, though generally of a mild order, may also manifest themselves. After a few days a mucous discharge, more or less abundant, is observed, which soon becomes tinged with blood, and after a time is found to be composed entirely of pure blood. This gradually loses its bloody character and assumes a pale colour, until it is quite clear, resembling that which at first appeared, when it entirely ceases. The previous symptoms disappear with the flow, which may have continued for five or eight days, and the girl is restored to her normal health, she in the meantime, however, having passed into womanhood. Frequently no such symptoms as those detailed appear, and the discharge may come on as a surprise both to the girl and her mother. On

the other hand, the symptoms may occur for a month or two without being succeeded by any discharge, but if the general health is good no anxiety need be felt on this account. As a rule, the first menstruation is accompanied by a slight amount of fever, due to the excitement of the genital organs. It is therefore exercising a wise precaution to keep the patient in bed during the days which the first two or three periods occupy until the function has become thoroughly established. By this precaution, so simple in its observance, a great amount of after-suffering may be saved. It is also most desirable to warn girls when they are approaching the age of puberty what is likely to occur, so that they may not be taken unawares and receive a shock when the discharge actually makes its appearance. I have known cases of young girls, when ignorant of the nature of the flow, being terribly frightened at its appearance, thinking something most serious had happened. I now come to speak of the age at which puberty commences. As is well known, there is no hard and fast rule on this point. Climate has considerable influence in accelerating or retarding it, but not so much as was at one time supposed. It is believed to be hastened by residence in towns and hot climates, also by constitutional vigour; while cold climates, a country life, and feeble constitution retard it. In hot climates it may take place as early as the tenth year, but in this country from fourteen to seventeen is the usual age. I have, however, known it to occur in Scotland before eleven, and as late as twenty-four, and in the latter case there was no menstruation till after the birth of the first child. Other and more remarkable extremes have been chronicled. We read, for example, of a case of a woman who, married at the age of twenty-seven, never menstruated till after the birth of her eighth child, and of another who did not menstruate till after her second marriage, at the age of forty. Numerous cases of premature menstruation are also on record, some giving

instances of this having occurred in infancy. Such anomalies are of course extremely rare, and are of little interest to the general reader. From elaborate statistics it has been demonstrated that in England puberty in females occurs most frequently between the ages of fourteen and seventeen, but by far the greatest number in the seventeenth year. The same may be said of France, Germany, and Norway, while in Russia those occurring in the eighteenth year preponderate. Few cases occur under ten years or over twenty-two, so that for all practical purposes these may be taken as the limits, and though this period is a pretty wide one and varies considerably, yet the function may be established at any time within these years without any peculiarity in the concomitant symptoms, and without any interference with the health of the individual; and I may go further, and assert that even beyond these limits, though irregular and exceptional, cases may and do occur without in any way disturbing the health. Once menstruation has been established, it should recur with periodic regularity during the whole child-bearing epoch, which as a rule continues for about thirty years. The recurrence of the discharge is always accompanied with a feeling of weight and fulness in the lower part of the abdomen, and frequently the whole system is affected more or less. These sensations have been called the menstrual mollimen. The only natural causes during the child-bearing period of life for the cessation of the discharge are pregnancy and suckling the infant. If it ceases in other circumstances than these, it is an indication of some diseased condition being present, the only period in a healthy woman when the functions of the ovaries and womb are at rest being those mentioned. The discharge may last from one to eight or even ten days, all being within the range of health. The following is, according to Dr. Brierre de Boismont, the duration in days arranged in the order of frequency in which each number of days the discharge continues:—8, 3,

4, 2, 5, 1, 6, 10, 7—eight days, according to this observer, being most frequently the length of time occupied by each period, and seven the least frequent. The time occupied by the discharge and interval together make up twenty-eight days; at least this is so in the majority of cases, and so it may be set down as the rule; but, like all rules, there are many exceptions to it, and a deviation from it of some days may be, and is frequently, quite compatible with a healthy performance of the act. Indeed, it is no rare exception to find women who only menstruate once in six weeks, while others may do so every fortnight, and yet they are in perfect health. Sometimes, but only when a morbid condition is present, the discharge may for the most part, if not altogether, be made up of a white or yellowish discharge, or the flow may not take place from the womb at all, but from some distant mucous surface, such as the bowel, bladder, nose, lungs, or stomach. This is called vicarious menstruation. Both of these abnormal conditions—viz., the unusual discharge from the womb and the blood from other organs—while indicating a departure from health, tend to give relief. The amount of discharge not only varies in different women, but even in the same woman at different periods; but, as a rule, two or three ounces may be considered as the amount lost at each monthly period. If it goes beyond this it must be considered as excessive, and shows the necessity for medical interference, as this cannot continue without producing, sooner or later, a marked deterioration of the general health, as indicated by pallor of the skin, lips, and gums, feebleness of the muscles, palpitation of the heart, breathlessness on slight exertion, coldness of the extremities, and a tendency to shiver. On the other hand, the absence or a paucity of discharge may likewise be, and frequently is, coincident with symptoms equally serious, such as those of consumption, epilepsy, neuralgia, headache, and other nervous disorders. If it is absent altogether, this may

indicate either absence or incomplete development of the womb and the parts connected therewith, or closure of the genital canal, atrophy (or wasting) of the womb, or diseases of the ovaries. At each period the lining membrane of the womb undergoes a kind of degeneration, and is shed and thrown off, so that the discharge is made up of this disintegrated membrane and pure blood. After the courses have passed away, the lining membrane of the womb is renewed ; and as impregnation usually takes place shortly after the discharge of the menses has ceased, the ovum thus finds a nidus in a newly-formed and vigorous mucous receptacle. It not unfrequently happens, however, that in consequence of a morbid condition of the womb the health of the lining membrane is not good, and so this is a frequent cause of miscarriage. As may readily be gathered from the preceding remarks, the advent of puberty is a period of life which it is most important to watch, and great care should be observed in regulating the girl's life. Both the physical and nervous systems must necessarily undergo great changes. It is therefore most desirable to prevent the brain being overtaxed by study between the ages of fourteen and sixteen, so that nervous energy may be devoted to the building up of a healthy mind, and the bodily development encouraged by leading a natural life. We should always remember that any organism which is forced beyond its natural growth invariably suffers in vigour and hardihood, and if one portion of a plant or animal is made to develop unduly, it is always at the expense of the organism as a whole. Let us then seek to give the nervous apparatus as natural a life as possible, so that the functions of digestion and assimilation may not be interfered with by withdrawing from the organs employed in these processes the necessary nerve power they require for the proper and perfect performance of their duties. Healthier bodies and clearer mental faculties will thus result, and the woman be better fitted for her proper sphere.

Education is all very well, but a healthy body, with a fairly-informed mind, is preferable to an over-stocked brain and a delicate frame. Woman's sphere is not to sparkle in the realms of literature, but to shine with a clear, steady, and warm light in her home, while affection glows in her eyes to the exclusion of critical hauteur, and children comprise her companions instead of books on recondite philosophy. With a view, then, of fitting woman for the exalted position God has ordained for her, it is essential that when she is budding into womanhood her life should be as natural as possible, and free from every strain. Mark me, I do not for a moment wish it to be inferred that education should not be attended to during the period I have mentioned; but what I insist upon is, that the mental powers should not be overstrained, as this can only be accomplished at the cost of impoverishing the general health. The system of cramming, which is so prevalent now-a-days, is most injurious to young ladies, and highly reprehensible. Parents, therefore, should strongly oppose this practice, and the result will be that there will not only be more useful, but fewer delicate wives and mothers. During the prevalence of the courses it will be necessary to exercise considerable care, so that nothing interferes with the continuance of the flow. Cold and damp feet, sitting in a draught of cold air, or anything that is liable to produce a chill, should be carefully guarded against, as such conditions are liable to check the flow before its natural termination, and thus set up disease. If by any means, therefore, the discharge has received a sudden check, it is most desirable to have it re-established. This may often be accomplished by putting the feet into mustard and hot water, giving hot drinks, and keeping the body warm. With regard to the character of the discharge, it has been said that it is not like ordinary blood, in so much that it does not coagulate. This, however, is a popular error, in so far as the power of the discharge to

coagulate is concerned. The reason that it does not coagulate is, that the discharge in the vagina (*i.e.*, the passage leading to the womb) is acid in its chemical reaction, and this mixing with the blood as it flows from the womb destroys its coagulability. If, however, the discharge is sufficiently copious, it will be found to coagulate like ordinary blood. Another proof that it is composed of blood is, that certain irritable conditions of the mucous membrane—which will be spoken of afterwards—cause it to coagulate in the womb itself, the clots exciting considerable spasmodic contractions on the part of the organ to expel them, thus giving rise to painful menstruation. In some women the discharge of blood at the monthly courses is more or less excessive in quantity. This may be caused by the presence of a tumour in the womb, by a granular or fungus kind of growth on the walls of the womb, or by a soft condition of its walls due to a chronic form of congestion, or it may result from a displacement of the organ. Fortunately, such cases, as a rule, are very easily put right, and rarely is there any cause for anxiety as to the result if the patient is properly treated. If the tumour is lying loose in the cavity of the womb it will be necessary to remove it, which, usually, can be readily accomplished. If fungosities are present they are easily scraped off, when the bleeding will soon cease. If congestion is the fault, then a suitable local and constitutional treatment will speedily remove the cause. If the general health is poor, thirty-six drops of tincture of steel in half a cupful of cold water three times a day about an hour after food will prove of great service. If a displacement is present this must, with certain precautions against setting up inflammation, be put into and kept in position. Although expedient, yet it is not always necessary to fly to a medical man under such circumstances even to procure a speedy result. I recommend my patients, in cases where the discharge has gone on for three days

and shows no signs of stopping at that time, to take a three-grain ergotine pill every three or four hours till it begins to moderate. This can do no possible harm, but in all such cases it is the wiser plan to consult a physician who has made the diseases of women his specialty, as so much ignorance on this important subject prevails amongst general practitioners, and it is quite impossible for an excessive discharge of this nature to recur month after month without seriously interfering with the health. In such circumstances, therefore, there should be no hesitation in laying your case before a physician who is competent to deal with it. When the monthly courses are profuse and associated with disease there is also a pretty copious discharge of white or yellowish-white matter in the intervals. This, of course, will also require treatment. In not a few instances, as has before been remarked, the discharge at each monthly epoch is the very reverse of being too abundant. This may be normal to the individual, or it may be due to some local or general disease. If to the latter, suitable treatment by tonics and good nourishing food will play the most important part in the treatment, while change of air, sea-bathing, horse-exercise, and walking or skating will be useful auxiliaries. Medical treatment consists in the administration of iron or manganese in pills three times a day after food. Another remedy has more recently come into repute in scanty menstruation, viz., the compound tincture of *caulophyllum*, *pulsatilla*, and *savin*. I have found it very serviceable in such cases when administered in tea-spoonful doses mixed with half a wine-glassful of water three times daily. Sometimes the discharge makes its appearance for a day, then disappears for twenty-four hours, returning again possibly to repeat the intermission or to continue till the courses have been completed. Such an irregularity points to some temporary obstruction to the flow, or a contraction at the mouth of the organ, or possibly the presence of a small tumour near

the orifice. Whatever be the cause, there is no need for anxiety, for it can speedily be removed by a little judicious treatment. Complete suppression or even intermission of the monthly courses after they have once been established, if not due to pregnancy or nursing, are always grave symptoms if they occur before the age of forty. Danger is to be especially apprehended if the irregularity is accompanied by a falling-off in the health of the patient, as this is usually the result of a weakened vitality due to some constitutional disease. In the early years of womanhood, however, we frequently come across cases of irregular menstruation without this meaning anything serious. I have on many occasions met with instances when the time varied from one to three months without any interference with the general health taking place. Notwithstanding these favourable experiences, however, it is always desirable to induce the flow to come on at the normal monthly time. The compound tincture of pulsatilla and savin is again very useful, as is also the permanganate of potass in pill, or the iron and aloes pill of the British pharmacopœia. It will be well, however, under such circumstances to consult a medical man rather than trust to the knowledge gained by reading. We must bear in mind that suppression of the courses is not as a rule due to a local cause, but is dependent on constitutional weakness. It is therefore essential to have resort to remedies which will improve the general health. The condition of the bowels must receive special attention, a daily evacuation being a *sine qua non*, and not only should we make sure that the bowels are moved every day, but that a complete emptying of the bowel takes place at the daily stool. One is too apt to take for granted that all is right in this respect because there is a stool every day, whereas the lower bowel may still remain loaded, and constipation actually exist when it is least suspected. Under such circumstances the daily use of the enema, composed of a pint of warm water in which

a table-spoonful of salt has been dissolved, is most useful. With a view of giving tone to the general system cod-liver oil, compound syrup of the hypophosphites, quinine, and iron, etc., are very beneficial, as well as change of air, horse-exercise, lawn-tennis, etc., and cold baths. In a few rare instances one meets with retention of the menses, which is distinguished from suppression by the fact that the discharge is present but does not find an exit. This may be due to the fact that the hymen, or, as it is popularly termed, the "maidenhead," which is a membrane stretching across the vagina, is completely occluding the passage, and presenting a barrier to the exit of the discharge. If this is the case, the portion of the passage between the membrane and the womb becomes distended with the accumulated discharges of successive months until the discomfort thereby produced becomes very serious and calls for surgical interference. When this is the case an operation of the simplest kind and quite devoid of danger suffices to give speedy relief. Painful menstruation may be due to (1) an undue sensitiveness of the walls of the womb, (2) a narrowness of the mouth or neck of the womb, (3) congestion of the lining membrane of its neck, (4) displacement of the body of the organ, (5) fibroid tumours growing in the thickness of the walls of the womb, (6) chronic congestion of the womb itself, (7) small polypi occupying the lower portion of the canal, (8) an elongated neck of the organ. In the majority of instances this painful affection is due to a hyper-sensitiveness of the womb itself, which gives rise to a spasmodic closure of its mouth, and in many instances the pain produced is so severe as to require the employment of narcotics for its relief. This method of treatment cannot, however, be too severely condemned, and means should therefore be taken between the cessation and commencement of the courses to relieve the diseased condition. The pain usually ceases as soon as the discharge begins to come away freely, but prior to this it

may have been most intense, and sometimes continuous for twenty-four hours. Relief to a certain extent will be obtained by applying hot fomentations, freely sprinkled over with laudanum, on the lower region of the abdomen, and by giving a little hot brandy or whisky toddy. With a view, however, of preventing a recurrence of the suffering, the bowels must be emptied daily, if necessary, by the enema ; flannels should be worn next the skin, and the tincture of pulsatilla in ten-drop doses given in water three times daily. If the pain is due to displacement, contraction of the canal, or congestion of the womb, it will be necessary to undergo a course of local treatment at the hands of a competent medical man. Before doing this, however, the daily application of the hot-water douche for ten minutes just before going to bed should be tried, and this may be all the local treatment that is required. The uterine (uterus, the womb) douche may be bought from any surgical instrument maker or india-rubber shop. Any surgical instrument maker will be able to supply a very good article at a moderate cost, which is made after my design. It, I believe, can be used without the slightest difficulty by the most inexperienced. Here let me urge on all who are martyrs to painful menstruation not to permit any feelings of delicacy to interfere with their procuring medical advice, and thus obtaining relief from their urgent symptoms, as sooner or later disease will develop either in the womb itself or the ovaries, which will not be so easily removed. Many women are made invalids from this cause alone, and no sooner is one period past and their strength pulled down in consequence than they are preparing for the next, when their vitality is again reduced, and possibly more so than at the preceding ; and so it goes on from month to month, and year to year, till their health becomes so impaired that they are rendered useless for any of the ordinary duties of life. See "Woman in Health and Sickness," by the Author.

*Menthol* is a kind of camphor or volatile gum which remains after the distillation of the essential oil of peppermint. It is crystalline in appearance, very much resembling the crystals of Epsom salts. Its effects are those of an anaesthetic, and when applied locally it destroys the nervous sensation of the part, and conveys to the individual a feeling of numbness very similar to that experienced in paralysis. The effects of menthol, however, are very transient, yet while they last relieve the pain, and are very grateful. It is largely employed internally, also as an antiseptic in certain affections of the stomach, and its anaesthetic or sedative effects have been largely taken advantage of in the treatment of obstinate vomiting, when it often proves of considerable service.

*Mercury*, or Quick-Silver, is that well-known metal which remains fluid at ordinary temperatures, and furnishes some of the most important medicines which are employed by the physician. Those which are most popular as internal medicines are blue pill, grey powder, and calomel, all of which have a powerful influence upon the functions of the liver. Mercury, however, should invariably be administered under medical advice only, as its effects, if not carefully watched, may be most serious. The dose of blue pill is three grains, and it should always be combined with a purgative, such as colocynth and henbane pill, to aid it in its effects upon the liver. Eight grains of grey powder may be given to an adult, and probably the best mode of administering it is in combination with thirty grains of rhubarb, thirty grains of bi-carbonate of soda, and ten grains of ginger. The ordinary dose of calomel is four grains, and it may be combined very much in the same way as has been recommended for grey powder. Corrosive sublimate, or the bi-chloride of mercury, is used both internally and externally. In the former case it is very efficacious in the treatment of syphilis, and externally it is one of the most useful antiseptics we possess, and is also employed in the

treatment of ophthalmia, when one grain in four ounces of rose water makes an admirable lotion. In antiseptic surgery a solution of one in 2000 to one in 5000 of water is the strength employed. The red oxide of mercury is used largely in the treatment of affections of the skin, in the form of ointment, and no better application can be made for dandriff or scurf on the scalp than a pomade containing one part of red oxide of mercury ointment added to three parts of an ordinary pomade. Calomel is also used as an external application, and proves most useful in the treatment of ulcers on the cornea, when a little may be dusted into the eye every second day. The green iodide and red iodide of mercury are preparations which are also largely employed in the treatment of syphilis, and in affections of the skin such as eczema and psoriasis. See special articles. When mercury is taken for a lengthened period it is liable to produce many unpleasant symptoms, such as salivation and softening of the gums, so that the teeth may drop out if the medicine is pushed to an undue extent. At the same time considerable constitutional disturbance, accompanied by fever, is produced, and it must be remembered that certain individuals are peculiarly susceptible to the effects of mercury, so that what in one case would produce no symptoms worthy of note will in others act in a very unpleasant manner. It is quite a mistake to imagine that it is essential to produce these symptoms to obtain the medicinal effects of this powerful medicine. If the symptoms of mercurial poisoning, however, have been developed, a mouth-wash containing alum and carbolic acid should be employed very freely, both to act as an astringent and to remove the foetid odour that is apt to arise when the gums become affected by mercury. Another excellent mouth-wash suitable in these circumstances is composed of equal parts of tincture of myrrh, tincture of chincona, and spirit of camphor, a tea-spoonful of which may be mixed with a wine-glassful of water and

used as a mouth-lotion. Condy's fluid in water also makes a good cleanser, which is applicable in these circumstances. The method by which mercury acts would appear to be entirely due to its antiseptic qualities upon poisonous matter contained within the blood, and also upon its stimulating effects upon the biliary secretion. When inflammatory conditions exist and it is deemed advisable to employ mercury for their alleviation, it is usually combined with opium to obviate its purgative effects. When administered as an alterative in these circumstances, one-half to one grain of calomel combined with one-half to one grain of opium may be given every four hours; but when a purgative effect is required, it is necessary to administer it in from four to eight-grain doses, either as has been before recommended, combined with a purgative, or followed by a purgative a few hours afterwards. Mercurial poisoning is liable to occur in those employed in the manufacture of mirrors, also in furriers and others who come much in contact with the metal. They then become liable to a palsied condition of the hands and arms, and sometimes of the whole body, which is indicated by a peculiar tremor of the muscles, and which compels them to abandon their occupation. The same symptoms frequently occur in those employed in quick-silver mines. The well-known pigment vermillion is mercury in combination with sulphur. White precipitate is the ammonia chloride of mercury, and is largely used as a parasiticide, especially in the destruction of lice. In the form of ointment it is frequently recommended in the treatment of fissure of the anus, and in that disagreeable itching which frequently exists around the anus.

*Mesentery* is the broad fold of peritoneum, or lining membrane of the bowels, by which the small intestines are attached to the posterior part of the abdomen and retained in their position. The mesentery is a most important fold

of membrane, as it contains numerous glands as well as blood-vessels.

*Metastasis* is the transplanting of a diseased condition from one portion of the body to another, as, for example, metastasis may occur in inflammation of the tonsils and be transferred to the testicles, or in gout it may leave the joint and fly to the heart, while in rheumatism the disease frequently jumps from one joint to another.

*Miasma* is the peculiar poisonous emanations which take place in warm climates and give rise to ague in white people who have taken up their residence in the neighbourhood.

*Microbe* is a term very similar in its meaning to that of bacillus ; indeed, microbe, bacillus, bacteria, micro-organism, germ, etc., all have very much the same meaning, and apply in every instance to the microscopic objects which possess the power when introduced into the human frame of multiplying to an incredible extent, thereby producing the various diseases to which the human frame is subject.

*Microscope*.—This useful instrument is an essential to every medical man. Without its aid none of the recondite changes which take place in the human frame during the progress of disease can possibly be ascertained. In affections of the kidneys it is specially useful, and also in the detection of disease germs affecting water and milk. It is long ago since its usefulness was demonstrated in diseases of the stomach, but now almost every diseased condition may be illuminated by means of this instrument.

*Midriff* is the popular name applied to the diaphragm. See article on this muscle.

*Miliary* is a term applied to an eruption which resembles very much in its appearance the scattering of millet seeds upon a plain surface. The term is applied to that skin affection which consists of minute vesicles, which are frequently found on persons who have perspired very much, or who have been in the habit of applying compresses to

any particular part of the body. It is a skin affection of no material consequence, but often indicates an acid condition of the blood, and this is especially the case in children.

*Milk*, the natural food of all young animals, is able to maintain life at whatever age it may be partaken of. It is a well-known fact that the longest-lived race on the globe, viz., the Arabs, subsist largely upon milk and dates. Numerous experiments have been made upon the nutritious properties of this important fluid, and invariably these have resulted in the fact that it is more capable of sustaining an animal in perfect health for an indefinite period than any other known substance. The digestibility of milk is very much increased by the addition of a little salt, and although some people profess that they are unable to assimilate milk in any form that it may be presented to them, this would appear to be merely a matter of prejudice rather than lack of power on the part of their digestion. Milk seems to supply every requirement of the human frame, and this is placed beyond doubt when we look at the healthy child who is being brought up on its mother's breast. In every family milk diet should enter largely into the daily menu. Fresh milk cannot always be readily obtained, but an excellent substitute is always at hand in the various preserved or condensed milks which have been introduced and can be purchased almost everywhere.

*Milk Fever*, or, as it used to be termed, "Weed," is a condition of the blood which induces fever of considerable virulence. When it does occur it usually manifests itself a few days after child-birth, and is said to be connected with the difficulties attending the secretion of milk. This, however, is a popular fallacy, as there is not the slightest doubt that when fever does occur, and I have no hesitation in saying that it never should, it is due to the absorption of fœtid matter which has been retained within the womb or genital passages. Of course it goes without saying, that

if there is a very great rush of milk to the breasts, and these become congested in consequence, a febrile condition of the system may be consequent upon this, but what is generally called milk fever arises from the circumstances which have just been enumerated. See "Woman in Health and Sickness," by the Author.

*Mind* is that peculiar spiritual accompaniment of life in the human being which influences all our actions, and seems to hold communion with the Divinity. A healthy and cheerful mind invariably indicates a healthy condition of the body; indeed, the mind is so intimately associated with the body that it reflects in every instance the physical conditions which for the time being exist. In women especially, if there is depression of spirits, accompanied by irritability of temper, it is probable that some serious affection of the womb exists, and therefore she should not rely upon the information of any general practitioner in these circumstances, but immediately apply to one who has made these diseases his special study.

*Miscarriage.* See *Abortion*.

*Moles.*—This term is applied in two distinctly different connections. In the first place, pigmentary deposits upon the skin go under the name of moles. As these are in all cases unsightly, the individual who is afflicted by these marks invariably desires their removal; it is not, however, quite safe to do this, as frequently, when they have been interfered with, cancerous disease has been known to develop on the site from which they have been excised. The term is also applied to false conceptions, so called; but that such a thing as false conception could ever occur seems to be most absurd, and the only explanation of this form of mole is, that the conception, when it did take place, had become the seat of some diseased condition, and was then immediately expelled.

*Monomania* is a species of unsoundness of mind arising from a debilitated condition of the nervous system. It may

take on a suicidal, homicidal, or religious trait ; or, as is frequently the case, it may develop a thieving propensity, when it is called kleptomania ; or an inclination to take alcoholic stimulants to an undue excess, when it is termed dipsomania. Again, it frequently occurs in young men who contemplate marriage, when the mental condition becomes concentrated upon a fallacious idea that their physical condition is such as to render them incompetent.

*Monthly Discharge.* See *Menstruation*.

*Morbus Coxarius.* See *Hip-Joint Disease*.

*Morphia* is one of the most energetic and useful of the alkaloids obtained from opium. It is prescribed both by the mouth and by the bowel in the form of suppository, and it is also extensively used hypodermically. From  $\frac{1}{8}$  to  $\frac{1}{4}$  of a grain of morphia is a fair dose when taken by the mouth ; in the form of suppository it is usually administered from  $\frac{1}{4}$  to  $\frac{1}{2}$  a grain ; and hypodermically no stronger dose than  $\frac{1}{6}$  of a grain should be given at the commencement. It may, however, be increased to  $\frac{1}{4}$  of a grain if the pain is very severe.

*Mortification*, or *Gangrene*, is the term given when death has taken place in a limited portion of tissue. Sloughs, which frequently occur after injury to a part, boils, and carbuncles may also be termed mortification of the parts which are thrown off. The term, however, is mostly applied in cases where a considerable extent of the living tissue has been deprived of its nourishment, and has hence died. The appearance of mortification in these circumstances is, blackening of the part, which is separated from the living tissue by a bright red line, and this blackening and death in the tissue are accompanied by a very offensive odour. At the commencement the surface of the skin may present an angry, inflamed appearance, but it is not accompanied by the severe pain which usually exists in acute inflammation of the surface. On the contrary, the part becomes deadened in its sensibility, and that in

consequence of the blood supply being cut off. Constitutional symptoms invariably exist when mortification is present—viz., great prostration, coldness of the body, rapid pulse, brown tongue, and a high temperature, whereas, if the disease exists, which it is very liable to do, in old people, when it is termed senile gangrene, the prostration increases as the gangrene spreads towards the body, and usually terminates in death. Sometimes, however, a line of demarcation forms—that is, the living tissue may become separated from the dead—and in these circumstances amputation of the affected part may prolong the life of the patient for some time; this, however, is usually a forlorn hope. When gangrene of a limited portion of the tissue exists, the proper treatment is to apply antiseptic poultices and sustain the vitality of the body while nature is endeavouring to throw off the dead matter, and in certain cases it may be desirable to place the patient under chloroform and separate the dead from the living tissue by a process of scraping, which frequently will have the effect of checking the spread of the disease and promoting a rapid cure. Of course, other causes may produce mortification besides those which have been mentioned in this article—e.g., very acute inflammation of a given part may result in the death of the tissue; but in these circumstances the term slough is generally applied to the dead tissue, which, as a rule, is thrown off by nature's efforts, assisted by antiseptic soothing poultices.

*Mother's Marks* are those markings upon the skin which are due either to an excessive deposit of pigment or an enlargement of the capillary vessels of the skin. Frequently these discolourations are present in very young infants, but, as a rule, they disappear. If they are much elevated above the surface of the skin they are not so ready to go off of their own accord, and in these circumstances may require operative treatment for their removal.

*Mouth* is the cavity which is composed of the upper and

lower jaw, lined by a mucous membrane which is connected to the subjacent muscular apparatus. It contains the tongue, teeth, and gums, and is bounded on the front by the lips, and posteriorly by the fauces and uvula. Many diseases arise in and around the mouth—the lips are subject to herpes, fissure or crack, cysts, and cancer; while the gums are also liable to ulcers, depending upon either thrush or inflammatory affections and diphtheria; while the tonsils, which form the posterior part of the throat, are liable to tonsilitis, which frequently develops into quinsy, aphtha, and ulcerations arising from inflammatory action. Every affection of the mouth, however, is traceable to some disorder of the stomach or general system, except in the case of malignant disease, which, of course, may attack any portion of the body. See special articles.

*Mucous Membrane* is that membrane which lines the air passages, alimentary canal, and the various internal organs, such as the bladder, womb, fallopian tubes, kidneys, etc. It is a smooth surface secreting a glutinous-looking substance called mucus, which protects the tender membrane from the action of the various substances which otherwise would come in contact with it and irritate it. When these surfaces secrete mucus in too large quantities they are said to be subject to catarrh.

*Mucus* is the thick viscid secretion which the mucous membranes throw out to protect their surfaces. It is composed of numerous cells of a globular appearance floating in a fluid. This secretion is always very much increased in quantity if any irritation is applied to the surface of the mucous membrane, or any inflammatory action is set up by cold or any other cause. If, however, the irritating action proceeds beyond a certain point, the cells of the mucous membrane are paralysed and secretion ceases altogether, so that the membrane becomes dry and exceedingly irritable and sensitive. An ordinary cold in the head is a good exemplification of the effects of a

slight irritation of the mucous membrane, but if the effects of the cold have been very severe, there is no flow of mucus down the nostrils, but, on the contrary, the mucous membrane is dry, hot, and exceedingly sensitive, when as a consequence a most disagreeable burning sensation is felt over the surface of the air passages.

*Mumps* is an infectious disease of a somewhat epidemic character, and consists essentially in an inflammatory condition of the salivary glands on either side of the jaw. It is a disease of childhood, and commences with more or less fever preceded by a shivering sensation. After the fever the neck on either side of the jaw becomes very much swollen, and may interfere greatly with both swallowing and breathing, and in every instance prevents the jaws from being opened to their full extent. In four or five days the swelling and acute suffering begin to disappear, and rarely does the inflammatory action proceed so far as to produce suppuration, but this contingency should always be held in view. The proper treatment is to keep the child indoors, attend to the bowels, and apply over the swollen surface a flannel dipped in olive oil, or saturated with a mixture of belladonna and soap liniments in equal proportions. After a day or two the application may consist of equal proportions of belladonna, soap and opium liniment, and compound camphor liniment. It is a curious coincidence in affections of the parotid glands, of which mumps is one, that the disease may by the process of Metastasis (which see) disappear from the neck and appear on the testicle in boys, or in the breasts of girls. Mumps may be looked upon as a disease quite devoid of danger if properly attended to.

*Muscles* are those portions of the human body which correspond to that which is known as the lean portion of meat. It is by means of the muscles that the movements of the body are effected, and when the muscles are under the control of the will they are designated voluntary

muscles. Numerous muscular fibres, however, exist within the animal frame which are not under control of the will, such as those of the heart, the intestines, the bronchial tubes, and arteries. These are called involuntary muscles, they being under the sway of the sympathetic nervous apparatus. The muscles which are under control of the will are stimulated into action by the spinal nerves. Muscles are not very liable to disease, but they may be ruptured or injured by direct violence, and may also be the seat of tumours. If a muscle is observed to shrink in volume and decrease in its power, we may as a rule infer that there is some nervous disorder at the root of it which should receive medical attention.

*Mushrooms.*—This is a subject of very great importance to every one living in climates where fungi abound to a large extent, for it is a well-known fact that although some fungi, such as mushrooms, are not only extremely nutritious, wholesome, and at the same time very palatable, a great number of the same class of vegetable products are, on the other hand, dangerous poisons. It therefore becomes a necessity to be able to distinguish between the poisonous and the non-poisonous fungi. Those fungi which grow in dark, humid positions should generally be avoided, as the edible variety grow in dry, airy places, and they are much firmer in their flesh than those which are unwholesome. The edible mushrooms have a pinkish skin on the under surface, and the white skin covering the upper surface is generally so tenacious that one is able to strip it off in considerable flakes, whereas in the poisonous variety the upper skin comes off in very small portions. In every instance, however, one, before eating a fungus, should be very certain that he is partaking of a non-poisonous variety, as those which are poisonous are very deadly in their effects. The symptoms of poisoning by these fungi are—giddiness, severe pain in the abdomen, vomiting, purging, and a tendency to collapse. Belladonna is the

best remedy that can be given in the absence of a medical man.

*Mussel* is a well-known species of shell-fish, which, when properly fed, is not only nourishing, but palatable. They, however, are so liable to partake of any poisonous constituents that may be present in the water, or in the substances to which they are attached, that they should be as a rule avoided as an article of diet.

*Mustard*.—Black and white varieties of mustard plants are grown throughout Europe and cultivated for use. Mustard is a well-known condiment, and no doubt when taken in moderation assists digestion to a certain extent. It is also employed in cases of poisoning as an emetic, when a dessert-spoonful may be mixed in a tea-cupful of warm water and taken at a single dose. As a counter-irritant it is unsurpassed, not only because it is easily applied in the form of poultice, but as it is always at hand and produces a rapid action. For these reasons it is most popular as a remedy in slight inflammatory affections of the breathing apparatus or other organs. One very important fact with reference to the application of mustard in the form of poultice is, that it can rarely if ever do any harm. Mustard is employed largely, especially in the treatment of children's complaints, in the form of mustard bath, when a table-spoonful of mustard may be stirred up in the child's warm bath before it is put to bed. These mustard baths are specially useful in inflammatory affections of the chest and stomach, and where convulsions are present. A mustard foot-bath is also a very popular remedy in the treatment of ordinary catarrh of the head, and mustard poultices are specially useful in the treatment of congested conditions of the head, such as apoplexy, epilepsy, meningitis, and convulsions from whatever cause they may arise. Mustard leaves are preparations which are said to be composed of mustard powder spread on thin calico. The mustard leaves, however, which are sold

almost invariably contain a large amount of capsaicin in their composition, which renders the application very much more painful than an ordinary mustard poultice would be.

*Mutton* is said by some, and those who ought to know better, to be a much more easily digested article of diet than beef. This, however, is a great mistake, except in the case of mountain mutton, which is very much more easily digested than that which is fed in the lowlands. Before being cooked, mutton should always be hung for two or three days to render it tender and palatable.

*Myrrh* is a gum resin which is extracted from trees growing in the neighbourhood of the Red Sea. It is a slight stimulant, and is also employed occasionally as an expectorant, but its principal use is in the form of tincture, which in combination with spirits of camphor and tincture of cinchona forms one of the most useful mouth-washes that can be recommended. A tea-spoonful of a mixture containing equal proportions of these three ingredients, added to a wine-glassful of plain water, makes one of the most agreeable and tonic mouth-washes that can be made use of.

*Myxædema* is a disease which mostly affects the female sex. It is supposed to be due to a faulty action of the thyroid gland (which is situated in the neck), and by many of its symptoms would appear to be allied in some measure to goitre. The disease is manifested by an altered condition of the skin, which takes on a dry, glazed appearance, whilst the subcutaneous tissue becomes increased in bulk. Myxœdema is generally accompanied by thickening of the lobes of the ear and disfigurement of the features, due to the thickening of the skin and its subjacent tissue. There is frequently also a characteristic red patch over the cheek bones; the voice becomes thick and altered in character, while there is a tendency to excessive discharge of the monthly periods. The remedy for this distressing affection is to be found in the internal administration of the

dried thyroid gland of healthy animals, and it is wonderful how rapidly the disease succumbs to this method of treatment.

*Nævus* is the technical term applied to Mother's Mark. *Nævi* may appear on the face, head, or any other part of the body. When upon the face they cause considerable disfigurement, but this may be removed by surgical operation. These marks are due to an enlargement of the blood-vessels of the skin.

*Nails* are of the same composition as the hair and outer layer of the skin, or cuticle. In short, they are prolongations from this membrane. They are composed of flattened cells compressed together into a sort of horny matter. These cells spring from a matrix in the outer skin, which we term the root of the nail. There are here placed numerous vascular points from which the nail is developed and is continually pushed forward by the development of new matter from behind. The nail rests upon a soft vascular cushion, which is situated on the true skin and is popularly termed the quick. At first the nail is thin, but as it advances in growth it becomes thicker by the addition of new cells, which are derived from the quick and which serve to fix the nail in its proper position. An injury to the root of the nail may for the time being arrest its development, when the portion anterior to the injury may be cast off and cause considerable inconvenience by its ragged edge. Constitutional disturbances of any kind, such as fever, frequently interfere with the growth of the nails, and this can be seen on persons who have passed through a severe illness. The most annoying and painful affection of the nails, however, is that which so frequently occurs in the big toe, where the nail is liable to grow in upon the flesh. In this way ulceration takes place, and causes considerable pain. The ulceration may often be arrested by the application of powdered nitrate of lead to the raw surface, but the chief point to attend to is to prevent the recurrence

of this contingency, and the method to adopt is to keep the nails pared in the centre more than at the edges, so that when the nail is cut it presents a concave front. When the disease, however, has progressed to an extent which interferes with locomotion, it may be necessary to apply to the surgeon to have the whole nail removed. In many instances where consumption is present the nails assume a curious shape from the clubbing of the fingers so frequently met with in consumptive patients.

*Naphthol* is recommended as an application in scabies and some of the scaly skin diseases. It is employed in the form of ointment.

*Naphthaline*, the hydro-carbon, is one of the products obtained by the destructive distillation of bituminous coal. It appears in the form of white shining crystals having a strong, unpleasant odour, and is employed in medicine as a vermifuge, and is especially useful in the treatment of tape-worm. It is also a stimulating expectorant and an excellent antiseptic. When introduced among furs it keeps moths away. The dose for adults is 15 grains given when the stomach is empty, and followed immediately by two table-spoonfuls of castor oil. Children may take from 4 to 8 grains, and at the same time a table-spoonful of castor oil flavoured with a few drops of some aromatic essential oil. During the two days preceding the administration of this medicine, the patient should eat freely of salted, acid, and spiced foods. Generally speaking, one dose of naphthaline is sufficient to expel a tape-worm, the head included, even in cases where other drugs have failed. It is useful, too, in the treatment of the small thread-worm, or ascarides. The author has also employed it in the treatment of typhoid fever with marked success. See *Enteric Fever*.

*Narcotics* are those medicines which have a sedative effect upon the nervous system, and therefore are employed for the relief of pain. They always require to be given

with the greatest amount of care and consideration. Those which are most frequently in use are—opium, henbane, hemlock, chloral, sulphonal, cocaine, etc.

*Nausea* is that disagreeable sensation which produces the inclination to vomit without actually accomplishing this. It is frequently present in dyspepsia and a disordered condition of the liver, but it also arises from impressions received by the nervous system which are due to unpleasant motion, such as in sailing, riding backwards, etc. It may be due to direct injury to the head, spine, or abdomen, and in sensitive people disagreeable sights or odours frequently produce nausea. It is also, as is well known, a frequent concomitant of pregnancy, and in many patients who suffer from an affection of the womb or ovaries. The treatment of this unpleasant sensation depends in every instance upon that of the disease from which it arises.

*Neck*, the bond of union between the head and trunk of the body, is anatomically and surgically the most important region of the frame. It is the channel of communication of the nervous apparatus supplying the body with that of the brain, and through it run the large blood-vessels named the carotid arteries, which supply the brain with blood; and through it descend the important veins carrying the blood from the head. Within the neck also are the oesophagus and wind-pipe, in front of which lies the thyroid gland, which becomes enlarged in goitre and bronchocele. In the neck also are situated the parotid and submaxillary glands, which secrete the saliva. The diseases of the neck, from the great number of important vessels and organs which it contains, are very numerous. The muscles which keep the head balanced in its proper position are liable to rheumatic affections and contractions. Cric is one of those acutely painful affections which may suddenly develop in the muscles of the neck, when the slightest movement gives rise to the most excruciating

pain. To soothe this the following liniment will be found most efficacious :—Menthol, 2 drachms ; chloroform,  $\frac{1}{2}$  an ounce ; belladonna liniment,  $1\frac{1}{2}$  ounces. A little to be well rubbed in every two or three hours. Wry-neck, on the other hand, is due to a spasmotic contraction of one of the lateral muscles of the neck, anatomically termed sterno mastoid. This disfigurement may be removed by surgical measures, viz., by dividing the muscle.

*Necrosis* is a term which originally related to the death of bone, but now it is applied to the death of tissue generally, although in reality it should only refer to bone.

*Nerves*, and *Nervous System*, is that complicated mechanism by which we think, feel, and move. It is composed of two distinct parts, one of which is white and opaque in appearance, and which when examined under the microscope presents a tubular and fibrous structure ; while the other is of a reddish-grey colour, and is composed of cells filled with granular matter. These two distinct nervous substances would appear to be essential to the working of this important organic apparatus. The opaque white matter forms the larger portion of the brain substance, spinal marrow, and nerves ; while the grey, although more sparingly distributed, is essential to the generation of nerve force, the tubular portion of which acts as a conductor, and there seems to be little doubt that an amount of circulation exists in this tubular portion. This is made quite apparent when the grey substance of the nervous apparatus enters into the composition of nerves, which are distributed throughout the whole body. These nerves at their roots are connected with the grey substance, with the cells of which their fibres are completely intermingled. When this union takes place an enlargement or swelling, termed a ganglion, is formed, and each of these ganglia would appear to be a distinct nervous centre in itself, and reflects the sensation produced in one part of the body connected with it to another portion to which it sends nervous

filaments. The divisions of the nervous system are—the brain or cerebrum, together with the cerebellum; the medulla oblongata, which occupies the upper extremity of the spinal cord; the origin of the optic nerves; the olfactory; the pneumo-gastric, which supplies both the lungs and stomach; and the phrenic, which supplies the diaphragm. Continuous with the medulla oblongata is the spinal cord, which is carried within its special canal in the vertebral column, and from which the spinal nerves are given off to supply the body and limbs with motor and sensory power. In front of the spinal cord within the chest are situated the splanchnic ganglion and solar plexus. These are the centres of the sympathetic nerves, and control the vascular system and the functions of digestion and assimilation. The involuntary muscular system is entirely under the control of the sympathetic nerves. The brain, which constitutes so large a mass of the nervous system, is in itself devoid of sensation, for it may be shaved off when protruding through an injury in the skull without the individual experiencing any pain; neither does it appear to have any special relation to the carrying on of the functions or even the life of the individual, as it has been proved by experiment that the brain may be gradually removed without causing the death of the animal for some time. It has been asserted that the brain is undoubtedly the organ upon which the manifestations of will, intelligence, memory, and sensation depend, and wherein consciousness and memory exist. This, however, is purely hypothetical, as there are distinct evidences that the brain is neither more nor less than an immense reservoir of nerve force from which the spinal and sympathetic nerves draw their supplies to enable them to carry on their special functions, and if we look at the effects of grief and joy we will observe that they are not experienced in the brain, but rather in the chest, viz., within those immense ganglionic masses which are called splanchnic ganglion and solar

plexus. This, of course, is also hypothetical, but it would appear from the fact that these centres are concerned at all events in pleasure and sorrow, and that they are more closely related to the soul than the brain itself. The spinal cord is the medium by which the will is exercised and sensation is conveyed, but it will be found that in every spinal nerve there are sympathetic filaments entwined, and it is quite possible that these filaments of the sympathetic system derive their nourishment from the medium by which they are surrounded. The cerebellum, or little brain, is believed to be that portion of the nervous system which regulates the equilibrium and harmonises the various movements of the body. This portion of the brain is connected with the processes of respiration, swallowing, and the circulation of the blood, but these various functions would seem to be stimulated by nerves which supply their nourishment from the base of the brain more than from the brain substance itself. The special senses have each their special nerve, viz.—those of sight, smell, taste, hearing, etc.

*Nervous Disease* is invariably associated with some local mischief which impoverishes the nervous system by constantly draining away its force, either by the incessant pain or continuous irritation of the part. For this reason females are much more liable to nervous disease than males, because they are subject to affections of the womb and ovaries, which are supplied with a very sensitive and important nervous apparatus, and these nerves being kept in a constant state of irritability by disease drain away nervous energy from the body at large. This, to a certain extent, explains hysterical conditions which women labouring under disease of the sexual organs frequently suffer from. When nervous prostration exists it is always accompanied by a very serious depression of spirits, associated with irritability of temper. There is also a languid condition of the circulation, resulting in coldness of the extremities and of the surface of the body. This is

combined with disorder of the various functions, such as those of the stomach, liver, heart, and kidneys. The depression of spirits may proceed to such a degree as to develop a species of monomania, and the disordered digestion and assimilation may result in weakness of the whole body, accompanied by emaciation. This nervous disease is invariably associated with sleeplessness, which, in consequence of the nervous apparatus not receiving that amount of rest and repose which is essential to its being sustained in a vigorous state, aggravates the disease. It is a great mistake to treat nervous complaints by the administration of stimulants; the first thing to be done in the circumstances is to find out the source of the drain of nervous energy, and proceed to treat the organ or organs that may be primarily affected. Next ascertain if the functions of the bowels are in a healthy condition; if not, this should receive serious attention. Then the patient should be removed from all that may cause anxiety and worry, and at the same time an abundance of fresh air and pleasant society should be provided. If, as is most usually the case, the womb is the origin of the mischief, this must be put right, and the following prescription will prove of great avail as a nerve tonic, viz.:—2 grains of extract of hemlock,  $2\frac{1}{2}$  grains of valerianate of zinc, made into a pill and given forenoon and afternoon for ten or twelve days in succession. See "Woman in Health and Sickness," by the Author.

*Nettle-Rash* is so called from the fact that the appearance of the rash resembles very much the sting of a common nettle. It is composed of slightly elevated whitish areas surrounded by a red colouration of the skin. The rash is intensely itchy, and especially so when the body is warm. It may disappear for a short time and then reappear, but as a rule it passes off within the period of twenty-four hours. Sometimes, however, it becomes chronic when it persists for a much longer period,

and in these circumstances is not easily removed. Nettle-rash is invariably due to some disorder of the digestive organs caused by the partaking of indigestible food, such as crabs, lobsters, and other kinds of shell-fish, underfed meat, and meat which has been cooked in an unwholesome way. Certain fruits also, such as the almond, nut, plum, etc., are liable to cause nettle-rash. The treatment, therefore, naturally suggests itself, viz., the clearing of these unwholesome substances from the alimentary canal by a smart purge, and, as the disease is invariably associated with an acid condition of the system, magnesia combined with rhubarb and ginger in the form of Gregory's mixture is one of the best remedies that can be used. If the itching is very severe, it will be found that the application of a solution of carbolic acid in water of the strength of one in thirty, to which an ounce of eau-de-Cologne or spirit has been added, will prove very soothing, and to avoid a repetition of the attack it will be necessary to regulate the diet very carefully.

*Neuralgia*, or Pain in a Nerve, may find a seat in any of the sensory nerves which ramify in the head, body, or limbs. As is well known, it is one of the most painful affections to which the body can be subjected. The most common seat of neuralgia is the head, when it is usually termed tic-doloreux. Toothache is a species of neuralgia, but its causes are not so difficult of explanation as the pain of neuralgia when it affects other nerves. In most instances the pain is really the only symptom that exists, but it may be accompanied with marked constitutional disturbances. The exact cause of the disease is sometimes a little difficult to decipher, but it is due either to pressure upon the nerve external to itself, or in consequence of inflammation taking place in its sheath or within the nerve substance itself, or, as in the case of decayed teeth, it may proceed from the irritation of one of its branches, which irritation is conveyed to the whole of the nerve from which

this branch takes its origin. It may generally be accepted as a rule, that when neuralgia exists it is more a symptom of general debility than a disease in itself. There are, of course, exceptions to this rule, and especially is this the case in sciatica, which is neuralgia of the sciatic nerve. Then, again, neuralgia is not unfrequently associated with gastric disturbances, which give rise to an acid condition of the system, developing a gouty or rheumatic condition of the blood. When the disease arises from such a cause it is generally of a more persistent and acute character than when it simply depends upon an impoverished state of the nervous system. It is quite unusual for this disease to attack two sides of the body simultaneously, as it is generally located in one side of the head, neck, body, or limbs, although it may leave the one side and fly to the other. It is characterised by excruciating pain, this being of a paroxysmal and piercing character, sometimes increasing to such an extent as almost to produce delirium. It disappears when the paroxysm has spent itself, but only to return with renewed violence after a longer or shorter period. Some forms of neuralgia are quite periodic in their attacks; these are generally associated with some malarial condition of the blood. The great remedy for neuralgia used to be quinine, and sometimes it was taken to such an extent as to produce serious injury to the organs of hearing, upon which it exercises a special influence. It is, however, no use trusting to medicine alone in the treatment of this painful disorder. The first point to attend to is, to endeavour to bring up the general health by suitable nourishment and stimulants, if need be, while the condition of the bowels should be most carefully attended to, and, if the paroxysms are severe, 8 grains of phenacetin with 2 grains of caffeine, repeated at intervals of four hours, will probably give relief more rapidly than anything else. At the same time, a tonic containing quinine 2 grains, caffeine  $1\frac{1}{2}$  grains, extract of belladonna

$\frac{1}{8}$  of a grain, and extract of hop 2 grains, made into a pill, may be taken three or four times a day with great advantage. If the blood is attenuated, which frequently is the case when neuralgia exists, the administration of iron will be essential. As a local application the following liniment will probably give the speediest relief, viz.:—3 drachms of menthol,  $\frac{1}{2}$  an ounce of chloroform, 1  $\frac{1}{2}$  ounces belladonna liniment, mixed, a little of which should be well rubbed in over the pained part at frequent intervals. The following ointment has also proved very efficacious in the author's hands, viz.:—6 grains of veratrum, 6 grains of morphia, rubbed up with  $\frac{1}{2}$  an ounce of vaseline, and a piece the size of a small pea to be well rubbed in over the painful part. In sciatica, menthol plasters placed over the course of the nerve have given great relief. Unfortunately, many suffering from sciatica have resorted to the pernicious habit of injecting morphia subcutaneously for the relief of the pain. This is a great mistake, as frequently the opium habit has been contracted by such a practice. In persons who are subject to neuralgic attacks it is essential that particular attention be observed in the matter of clothing, and flannel should invariably be worn next the skin, whilst exposure to damp and cold should be avoided as much as possible. When neuralgia is very persistent a change of air to a dry bracing atmosphere will often prove very beneficial. In these circumstances—that is when the disease has become chronic—phosphorus administered for a lengthened period in the form of a pill will often prove of great service. When neuralgia attacks the stomach it is termed gastralgia; when it affects the muscles of the chest it is called pleurodynia; when the heart is affected very dangerous symptoms, termed angina pectoris, may result, and this not unfrequently terminates in death. Earache, or otalgia, is another form of this painful affection of the nerves, and must be distinguished from abscess or inflammation of the internal ear.

*Night Blindness* is a species of functional derangement of the retina due to an excessive strain of this highly sensitive membrane during the day from over-exposure to bright light. It is too important a matter to be treated by one not thoroughly competent, and in every case should be referred to a qualified medical man.

*Nightmare* is that peculiar vivid hallucination which so frequently occurs during the night in those who are suffering from indigestion or constipation. It is in reality a hyper-active condition of the brain without the control of the will being brought to act as the balancing power to prevent it from having its full sway. It frequently gives rise to what are called night-terrors in children, and in many instances even in adults appears so real as to affect the nervous system very seriously when it occurs. Nightmare generally partakes somewhat of the nature of a tragedy, and the scene which rises before the imagination of the individual is one full of horror, which appears for the time being to be so real as to give rise to screams, indicating the terror that the sleeper is possessed with. So real does the scene that is being enacted appear to the sleeper that it occasionally results in somnambulism. In short, nightmare is neither more nor less than a temporary delirium in a person whose functions are only disturbed for the time being. The proper remedy for this distressing nervous disturbance is, to avoid everything that is indigestible and pay proper attention to the bowels, as it will certainly recur if either of these injunctions is ignored. See *Dreams*.

*Nipples*.—The nipple of the female breast is largely made up of tubes and connective tissues. The tubes, or lacteal vessels, concentrate in one main tube which gives passage to the milk, and into which the various smaller tubules concentrate. When pregnancy occurs the nipple becomes more prominent, and the coloured area, or alveola as it is called, becomes darker in colour in consequence of

its being more freely supplied with pigment. Sometimes, as the result of the absurd fashion of tight-lacing, the nipple becomes so embedded in the soft structure of the breast that it is with considerable difficulty it can be elevated sufficiently to enable the child to take hold of it with its mouth; and if this condition is not remedied it may lay, as it has frequently done, the foundation of abscess in the breast and future weakness in the mammary glands. The nipple is liable to many painful affections, viz., fissured, hacked, or chapped nipples. It is in consequence of the severe pain that ensues when the child is put to the breast that in many instances sensitive and nervous women have been prevented from nursing their offspring. When there is a tendency to chapped nipples the best application consists of 5 grains of nitrate of lead dissolved in half an ounce of glycerine. This should be applied each time after the child has been taken from the breast. The nipples should, however, be carefully cleansed and dried again before the infant is allowed to suckle, and in many instances it may be necessary to protect them by means of nipple shields, and only allow the child to suckle through india-rubber teats applied to these. If the pain is excessive when the child is being nursed the application of a 10 per cent. solution of cocaine to the nipple a minute or so beforehand will give great comfort to the mother by deadening the sensibility of the sensitive part. Cocoa butter has also been advocated as an application to chapped nipples, and with a view to hardening the nipple before childbirth the application of glycerine of tannin two or three times a day for a few weeks prior to labour has often proved of great service. See "Woman in Health and Sickness," by the Author.

*Nitrogen Gas* is an elementary substance forming four-fifths of our atmosphere, and producing by combination with other gases ammonia, nitric acid, nitrous acid, nitrous oxide, etc. It is one of the most important elementary

bodies, and enters largely into the composition of animal tissues, especially that of muscle and nerve.

*Nitrous Oxide*, or Laughing Gas, is largely employed by dentists for producing insensibility during the extraction of teeth. It is also to a certain extent employed in surgery when an operation of short duration is contemplated, such as, for example, in the opening of the dense inflamed tissue constituting a carbuncle, or when an abscess has to be incised. It is supposed to be safer than chloroform, but this statement is open to very serious doubt, as its action does not depend upon any other explanation than that the lung is, for the time being, deprived of oxygen, and in consequence the nervous apparatus is in abeyance. Nitrous oxide does not appear to act as a direct poison, hence the effect is innocuous so far; but should it be continued for any lengthened period, asphyxia must necessarily ensue from the blood being deprived of its vitalising constituent.

*Nocturnal Discharges*, or Emissions, are due to some mental disturbance combined with a deranged condition of the moral faculties. Unless they are very excessive they cannot be said to be injurious; at the same time, they should never be encouraged, but every means taken to obviate their recurrence. As these usually take place when the patient lies on his back, it is a good plan to ensure that he wakes up immediately upon taking this position, and to accomplish this a bobbin may be so fixed by means of a tape fastened round the body as to occupy a position over the spinal column, so that when the patient turns upon his back the hard substance pressing upon the surface of the body will naturally waken him up. Young men who suffer from this affection should always sleep on a hair mattress, and should be particularly attentive to the condition of their bowels. Bromide of potassium has been prescribed as a sedative in the circumstances, but it is not advisable that this remedy should be continued for any

length of time. Young men who are subject to this nervous affection should avoid consulting quacks who profess to cure, but whose only object is to impose upon the victim and abstract from him as much money as he possibly can, generally on fear of exposure. Persons affected by this disorder, therefore, should have no hesitation in consulting their own medical attendant.

*Node* is an enlargement which takes place on the surface of a bone, and is due to an inflammatory exudation taking place underneath the periosteum. It is frequently the result of syphilitic disease and rheumatism. The most common seats of nodes are the shin and bones of the skull, but any bone may be similarly affected. While the disease is in its painful and acute stage perfect rest should be enjoined, while leeches, fomentations, and poultices may be applied with considerable benefit. At the same time, however, constitutional treatment should be actively employed, and amongst the most potent remedies for this painful affection are iodide of potassium and mercury, which rank in the first place; but medical aid must be called in.

*Noise in the Ears*, or *Tinnitus Aurium*, though not always, is very frequently due to disease of the internal ear. It, however, generally arises from accumulations of wax in the external ear, and from the effects of certain medicines, such as quinine and salicine.

*Nose*, the organ of smell and the natural passage of the air in inspiration, is lined by a vascular mucous membrane largely supplied with cilia, or minute hairs, which act as a filter to the air in its passage to the lungs. The part of the nose occupying the face is chiefly made up of bone at the upper part, or bridge, and of cartilage where the nostrils expand. The internal canal, which communicates with the pharynx, or back of the throat, is tortuous to a considerable extent in consequence of the mucous membrane spread over the spongy bones having a convoluted

surface. A blow upon the nose is generally accompanied by considerable bleeding, in consequence of the vascular condition of the mucous membrane. The nose is also liable to fracture, when, of course, the bleeding may be excessive. As is well known, it is the seat of what is popularly called catarrh, or cold in the head, when the mucous membrane, being irritated by the congestion which accompanies this affection, secretes mucus in abnormal quantities, and causes considerable difficulty in breathing as well as inconvenience otherwise. If bleeding from the nose takes place and becomes excessive this may be checked in many ways, such as actually plugging the nares. Cold applied to the spine frequently assists in arresting the bleeding, and holding up the hands has also a like effect. If the bleeding has become so uncontrollable as to necessitate plugging of the nares, this will require to be undertaken by a medical man. Frequently foreign bodies, especially in children, are introduced into the nose, when considerable skill may be required for their extraction. In syphilis the nose is generally often seriously affected, and ulceration results. When this ulceration attacks the mucous membrane, and, as it may do, affects the bones on which it is spread, a most loathsome and distressing disease, called ozæna, results, and from the surface of this ulcer a most offensive discharge giving rise to a disagreeable foetor of the breath ensues. The treatment of this distressing affection must be both constitutional and local. Iodide of potassium in five or ten-grain doses given three or four times a day should be taken for a considerable time, while the ulcerated surface should be thoroughly scraped, and all the diseased tissue removed. The surface should afterwards be freely dusted over with aristol at frequent intervals, after which the nasal douche should be diligently and frequently employed. The interior of the nares are liable to be affected by polypi, which interfere not only with the passage of air, but with the sense of

smell. These can be readily removed by the forceps, which operation, as a rule, entails little danger.

*Nurse for Children.*—Great objections are usually taken to the employment of wet nurses in the rearing of children. This, however, is purely a matter of sentiment, and should in no instance be a barrier to the employment of healthy women when delicate children are unable to thrive on artificial food. It has been often urged as an objection that the child is liable to partake of the temper, or idiosyncrasies, or vices of the wet nurse. This is purely a fallacy, as it might with equal truth be asserted that a child brought up on cow's milk would partake of the nature of a cow. In selecting a wet nurse the great points to observe are—Is she free from disease, and is she naturally of a robust constitution, and capable of producing sufficient milk for the nourishment of the child? A woman to undertake the nursing of her child, or of the child of another, should live simply but well. Her diet should consist largely of farinaceous and milk food, and, to a certain extent, butcher meat, fish, fowls, game, and eggs. It is quite a mistake to give too many dainties to a nursing mother. When menstruation returns in a woman who is nursing it is always a serious objection, and the child should be withdrawn from the breast during the period that this lasts, the breasts in the meantime being emptied by artificial exhausters. In the event of illness in the nurse the same course should be adopted. Alcoholic stimulants should be carefully avoided by all who are suckling, as the partaking of stimulants cannot but have a prejudicial effect on the future health of the child. Great care should also be taken in the administration of medicines to a nursing woman, as these are very liable to affect the child through the milk. In selecting a nursery-maid for young children great discrimination should be observed, so that a strong, vigorous, and healthy woman be obtained.

*Nurses for the Sick.*—So many institutions have now been established for providing efficient nurses, and they are so readily procured at the present day, that it is quite superfluous in a work of this kind to indicate what their duties should consist of. It is quite different now from what it was some years ago, when any old washerwoman or charwoman was supposed to be sufficiently capable to assume charge of the sick.

*Nux Vomica* is the seed of an Indian tree. Its active principle, and that upon which depends its medicinal properties, is strychnia, which, as is well known, is a most powerful poison, though at the same time a most valuable medicine. Many instances of strychnine poisoning are on record, the symptoms of which are most painful; violent spasms coming on quickly attack the whole muscular system, and cause death by suffocation in consequence of the severe spasm that attacks the muscles of the chest. Chloroform inhalation is one of the most potent methods of giving relief, while animal charcoal taken into the stomach is a useful antidote. Calabar bean has also a most beneficial effect in cases of strychnine poisoning. As a medicine nux vomica, either in the form of tincture or extract, is largely employed in the treatment of atonic conditions of the stomach, intestines, and muscular system generally. The tincture may be administered three or four times a day, in ten-drop doses, with great advantage where constipation is a prominent symptom, or when there is a want of activity in the muscular structure of the stomach. The extract may be similarly administered in half-grain doses three or four times a day, while the powder, in two-grain doses combined with eight grains of bismuth, is frequently given as a stomachic shortly before meals. In failure of the heart's action and in alcoholism  $\frac{1}{60}$  to  $\frac{1}{50}$  of a grain of strychnine, injected subcutaneously, has proved of great service.

*Obesity.* See *Fat.*

*Œdema* is a term applied to a swelling of the skin and tissues underneath the skin, and is due to the effusion of the watery part of the blood into the subcutaneous cellular tissue. It may be due to disease of the kidneys, heart, or liver, or it may be the consequence of pressure in the pelvis preventing the free return of the venous blood. It is always a symptom of considerable gravity, and should be dealt with very promptly.

*Œsophagus*, or Gullet, is the tube leading from the mouth to the stomach. See *Gullet*.

*Ointments* are usually prepared with lard, vaseline, or lanoline, which are employed to dilute and render easy of application certain medicinal substances—*e.g.*, mercurial ointment, gall and opium, etc. See various articles.

*Old Age* is usually said to commence in women about the fifty-third year, and in men about the sixtieth year, although many men and women retain their health and vigour for a much longer period. As old age advances, disease of a serious nature is more liable to develop than at an earlier period of life, such, for example, as gout, gravel, rheumatism, apoplexy, paralysis, cancer, etc., and it is at this period of life that the effects of dissipation and excess in early life are liable to manifest themselves. Old people should always be well nourished, and care should be taken not to depart from the habits which they have formed, either in the way of eating, drinking, or clothing, as a little thing at this period of life may result in very serious consequences. Particular attention should be given to the preservation of the teeth, and if these have disappeared they should be immediately replaced by artificial ones, as mastication is essential to digestion and to the prevention of dyspepsia. If there is difficulty in mastication, the table mincer should be brought to the aid of the individual. The meals should all be light, and not at too long intervals. The principal meal of the day should be taken about one or two o'clock in the afternoon, and not

late in the evening. Then, particular care should be observed in clothing old people, as their power of resisting cold is very much decreased by advancing years. Woollen clothing should therefore be worn next the skin by all elderly people. Exercise to a moderate degree should be taken every day, but over-fatigue carefully avoided. Injuries of all kinds are more apt to end seriously in the aged than in younger people, partly in consequence of the more languid state of the circulation, and also because the nervous system is not so able to sustain shock. Sleeplessness is a common complaint in elderly people, but, fortunately, sleep is not so essential to their health as it is in younger people. When, however, sleep is difficult to procure, it will be found that taking a light meal shortly before going to bed will aid very much in inducing this. Constipation is also liable to occur in elderly persons, and this must be carefully guarded against by judicious administration of aperient medicine, or an enema composed of a tablespoonful of salt dissolved in a pint of warm water may be given every second day. As is well known, the faculties are liable to give way more or less as age advances, especially those of sight and hearing. When these symptoms appear in their incipient stages a great deal can be done by obtaining medical assistance.

*Olive Oil* is prepared by crushing the ripe fruit of the olive tree or olives. It should be of a pale amber colour, and devoid of taste or smell. It is frequently adulterated with inferior fixed oils. In many instances what is sold as pure olive oil is not this article at all. It possesses gentle aperient properties, and may be usefully employed in children who are subject to constipation, as it is both nutritious and also produces aperient effects. It is a useful laxative for ladies during pregnancy. Of late years large and frequently repeated doses of olive oil have been found efficacious in the treatment of gall-stones.

*Omentum* is the membrane, containing large deposits of

fat, which covers the intestines in the form of an apron, as it were, in the abdominal cavity. The omentum protects the bowels against cold, and also to a large extent against injury. In very corpulent people the omentum becomes much increased in bulk, and gives rise to the prominent abdomen which characterises fat people.

*Onanism*—the crime of Onan, self-pollution—requires no further notice here than to put parents upon their guard respecting their children in connection with this ruinous vice, acquired at school, and indulged in in ignorance either of its sin or evil consequences. Some of the most lamentable instances of youthful decrepitude, nervous affections, amaurotic blindness, and mental debility and fatuity in early life, which come before medical men, are traceable to this wretched practice. Whenever young people about the age of puberty exhibit unaccountable symptoms of debility, particularly about the lower limbs, with listlessness and love of solitude, look dark under the eyes, etc., the possibility of vicious practices being at the root of the symptoms should not entirely be lost sight of.

*Onychia* is a disease attacking the root or side of the nail, and may result in the formation of an abscess, or the parts may become ulcerated, and in every instance it is attended with severe pain. When the side of the nail is ulcerated, powdered nitrate of lead dusted over the part often gives immediate relief. If the pain is great, and matter is present, the part will require to be poulticed and fomented at frequent intervals, and if pus has formed it will be necessary to allow its escape by a free incision with the lancet. The disease may be so persistent that it becomes a necessity to apply to the surgeon with a view to have the nail removed, which may be done either without pain, if cocaine is used locally, or under the influence of chloroform or laughing gas.

*Ophthalmia*, or Inflammation of the outer covering of the Eye, may be due to exposure to cold or the introduction of

some foreign matter into the eye. Its symptoms are—intolerance of light, pain on movement of the eyelids, and a congested or blood-shot appearance of the white of the eye. Great relief will be almost instantaneously obtained by the introduction into the eye of a drop or two of a five or ten per cent. solution of cocaine, while one of the following lotions should be employed every two or three hours afterwards :—5 grains sulphate of zinc, 1 drachm of opium wine, and rose water to make one ounce—a few drops to be introduced into the eye every two or three hours ; or, 1 grain bi-chloride of mercury,  $\frac{1}{2}$  an ounce of opium wine, 4 ounces rose water—a tea-spoonful of this to be added to a tea-spoonful of hot water, and the eye to be frequently bathed. As internal remedies in this affection, 10 grains of salicine every two hours, or 2 grains of quinine every four hours, will be found highly beneficial.

*Opinion, Medical.*—This consists, first of all, in diagnosis, or conclusion arrived at as to the nature of the disease. Although diagnosis means literally a thorough knowledge, there is such a thing as false diagnosis, and this, unfortunately, very frequently occurs, when the consequence to the patient, as may be imagined, is not at all beneficial. The treatment, which is the second process in a medical opinion, is, as a rule, comparatively easy if the diagnosis be correct. The third point in medical opinion is the prognosis, or opinion which refers to the ultimate progress of the case. This is aided very much by long experience in the treatment of the special diseases which are under consideration.

*Opium* is one of the most useful and most popular of medicines. It consists of the milky juice extracted from the garden poppy, which when dried becomes of a dark brown colour. Opium has probably given more relief to human suffering than any other medicine we possess. The drug is chiefly cultivated in Asia Minor, Egypt, and India, but it can and has been prepared in Great Britain. The

effects of opium are very delightful when taken in small quantities, and in consequence of this the opium habit is easily acquired, and when once it has taken possession of an individual it is very difficult indeed to get quit of. As is well known, amongst the Orientals this drug is employed as a stimulant, just as we employ wine and alcoholic stimulants, and even in this country there are many people who indulge in this pernicious method of procuring intoxication. It is a curious fact that opium, when taken in small quantities, acts as a stimulant, and that when pain exists a much larger dose is required to produce sleep than when the person is free from suffering. It is also noteworthy that when persisted in for a long time the system becomes so accustomed to it that enormous doses can be taken without producing anything more serious than a feeling of ecstasy, so much so that a single individual may be able to take at one dose as much laudanum as would kill two ordinary people. Children are highly sensitive to the effects of opium, and a dose of laudanum (which is the tincture of opium) should correspond in drops to the number of years of the patient up to maturity, after which the dose should not exceed 25 drops. If a dose of opium has been taken which produces heavy slumber, with ster torous breathing, and if there is a fear that death may ensue, the patient should be kept moving about and the surface of his body switched and irritated by some substance or other (for this purpose nettles have been frequently employed) until the effects of the drug begin to pass away. But before these measures are commenced an effort should be made to empty the stomach, either by means of emetics or the stomach pump. The stomach pump is preferable, because after the stomach has been emptied by this instrument it can be washed out by means of warm water. In some cases opium neither produces sleep nor pleasant excitement, but may give rise to feverish restlessness, headache, thirst, etc. When relief

from pain is sought to be procured by opiates, the present method of employing the hypodermic injection of morphia gives the most satisfactory results. Opium modifies the action of the mucous membranes of the liver and kidneys, and also constipates the bowels, but it causes free perspiration. The quantity of opium which may produce a fatal result if taken into the stomach may be estimated roughly at from four to five grains, and from one drachm to two drachms of laudanum. The average time at which death ensues from opium poisoning is about twelve hours, but if the dose has been large it may occur much earlier. As a medicine, opium is employed in a great variety of diseases, such as pneumonia, pleurisy, diarrhoea, cholera, prostration, and sudden collapse after confinements, bronchitis, asthma, and as a local application in the form of liniments. The acting principles of opium are morphia and codeia, the latter being largely employed in the form of lozenges for irritation of the wind-pipe, and also in the form of pills in the treatment of diabetes.

*Opodeldoc* is the popular name for the old form of soap liniment, which has been superseded by the soap and opium liniment.

*Optical Illusions* or Delusions are the result of a disordered action of the nervous system. These delusions are always indicative of disturbance of the functions of the brain which are reflected through the optic nerve. They may also arise from a vitiated condition of the blood circulating in the nervous system, this impure condition being produced by absorption of faecal matter from the colon of bile or of urea. Optical illusions are always present when alcohol has been indulged in to excess, and these are invariably the first symptoms which show themselves in delirium tremens.

*Orange* is one of the most wholesome fruits that we are acquainted with. An orange before breakfast is a great help to anyone whose bowels are sluggish, and at all times

of the day it may be considered a wholesome fruit. It has been recommended as a specific in furuncles, or boils ; as many as eight to ten oranges a day should be taken by those who are predisposed to this affection, and, as a rule, the effect will be to remove that condition of the system which renders the skin prone to be occupied as a soil by the microbe which is the real cause of these distressing suppurations.

*Orbit* is the cavity in the skull in which the eye-ball is placed.

*Osmazone* is that peculiar principle which gives the agreeable flavour to roast beef. It is an albuminous compound, and may be observed floating like flaky matter on the gravy which exudes from roast meat. It is really the only nourishing principle that exists in soup, the gelatinous ingredient being of no use as a nourishing agent.

*Ossification* is the formation of bone. It proceeds from various points or nuclei, which are situated in the extremities of the long bones and in the centre of the short bones. As is well known, the anatomy of infants is remarkable for its absence of bony tissue, the limbs being occupied by cartilage where bone afterwards exists. The principal components of bone are phosphate of lime and carbon. Bone, like all the other living tissues, is subject to disease, the most important of which is caries, this being due to a deposit of tuberculous matter within the substance of the bone, which is liable to invade the neighbouring structure and cause its death, when it gives rise to abscess, sometimes of considerable dimensions, and frequently having most serious consequences. Caries usually attacks the extremities of the bones ; necrosis, on the other hand, usually attacks the surface irrespective of position. This may be induced by direct injury or by acute inflammation of the periosteum. In process of time the dead bone is thrown off, and health is restored ; but in many instances it will be necessary to resort to surgical interference for the

removal of the dead tissue. When caries is threatening, the muriate of calcium taken after food three times a day will prove of very great service in enabling nature to combat the disease. Bones are also liable to cancer and a peculiar brittle condition, which, as a rule, is indicative of advancing years. Refer to *Bone, Cartilage, Fractures, etc.*

*Ovariotomy* is the term applied to the operation for removal of cysts, or tumours, formed in, or in connection with, the ovary. In former years it was an operation which was rarely attempted, in consequence of the almost uniformly fatal results which followed. Nowadays it can be undertaken with almost a certainty of success, and little fear need be present in the minds of those who require to undergo this operation if the operator is skilful, and if he is surrounded by an efficient staff of nurses. During the past two years the author has operated in over eighty cases with only one death.

*Ovary* is the gland in which is formed the ovum or egg, which when impregnated develops into the perfect animal. The ovary in the human female is situated on either side of the fundus of the womb, and in close proximity to it is the fallopian tube. Inflammatory action is liable to be set up in the ovary as a secondary result of inflammation of the lining membrane of the womb, and it is generally associated with a similar condition of the fallopian tube. This disease is always accompanied by intense pain, great nervous prostration, and failing health in those who suffer from it. The ovary is also liable to cystic disease, when the tumours which result attain enormous dimensions. It is also occasionally the seat of fibrous tumours, abscess, and cancer, and not unfrequently may be attacked by tubercular disease. All of these, however, with the exception of cancer and tubercle, and even in some cases the latter, may readily and safely be removed by a surgical operation.

*Overcrowding* is one of the most pregnant causes of

disease that is known, and is invariably the cause of a high mortality. Nowadays, however, the law has stepped in and prevented the overcrowding that so recently existed, and, in consequence, the death-rate is materially decreased in those localities where, before these sanitary measures were adopted, the death-rate was excessively high. Typhus fever is intrinsically a disease of overcrowding and bad ventilation. Besides, overcrowding morally has a most pernicious effect, and should be deprecated on this ground alone, even though there were no other ill effects resulting from it. As an instance of the effect of overcrowding, the author made careful inquiries on one occasion when the death-rate of Glasgow stood at 49 per 1000. He found that in one locality of the city, where he knew overcrowding existed, the number of deaths at this time was actually 81 per 1000, while in the better parts, where hygiene was more carefully studied, the death-rate was only 23 per 1000, showing that sanitation can do a great deal in the preservation of health and longevity.

*Ovum*, the Latin word for an egg, is the term which is applied to the germ which, on impregnation, develops into the future being. This, in the human subject, usually takes place within the cavity of the womb, but it has frequently been observed to occur in the fallopian tube, or even within the abdominal cavity itself.

*Oxalic Acid* is really a vegetable acid, being found in combination with potash and lime in such plants as the common garden rhubarb and sorrels. It is also produced in certain diseased conditions within the human body, when it may give rise to a certain form of calculus. In this diseased condition it is the oxalate of lime which for the most part composes the stone. When nitric acid is brought into contact with sugar or starch, oxalic acid is also formed. It is found in small white crystals, and, as is well known, is a deadly poison. It is frequently used for domestic purposes in removing stains from clothes, and

may be, as has frequently occurred, mistaken for Epsom salts. Great care, however, should be taken in having it properly labelled, or, what is better still, not to keep it in the house after it has served the purpose for which it has been purchased. When a large quantity has been swallowed, the chief effect is complete prostration of the strength ; in fact, collapse, accompanied with stupor, speedily occurs, and the patient may die within half an hour after partaking of the poison. The matter which is vomited is always of a strongly acid reaction, and very dark in colour. The rapidity of its action requires the most energetic measures to be adopted, and vomiting should be induced with as little delay as possible. As an antidote, chalk or whiting should be administered as promptly as possible. Old mortar from a wall would answer the purpose in the event of no cleaner preparation of lime being at hand. The irritating effects of oxalic acid are so great that, if the patient recovers, it must naturally be expected that considerable irritation of the stomach and alimentary canal will exist, and require systematic treatment for some time afterwards.

*Oxaluria* is distinguished by the presence of oxalic acid crystals in the urine. These may, and frequently do, exist in individuals who have partaken of rhubarb, or wines, or malt liquors which contain much carbonic acid, or it may be excreted as a morbid product from the kidneys, the result of an unhealthy disintegration of the tissues. The latter is usually the result of acid dyspepsia, and the acid combining with lime, as has been before noted, may result in the formation of calculus or stone in the bladder. The treatment of such cases consists naturally in the avoidance of those articles which contain the poison, as well as those sweet effervescent beverages which are combined with carbonic acid, and the employment of from 20 to 30 drops of dilute nitro-hydro-chloric acid given in water three or four times a day.

*Ox Gall* is employed in medicine generally in the form of pill. It is the bile of the ox evaporated to the consistency of a gum resin. It has been largely employed in the treatment of constipation, 5 to 10 grains being the dose, given once, twice, or three times a day as the case may require. It sometimes produces a beneficial effect, but other purgatives of a much more certain action are generally preferred.

*Oxide of Bismuth* is employed in the treatment of heart-burn and acid dyspepsia. Its dose is from 6 to 10 grains, three times a day, about half an hour before food.

*Oxygen Gas* is one of the elementary bodies, and is sixteen times heavier than hydrogen. It is the most important of all the gases, being essential to the sustenance of animal and vegetable life. It occupies 20 per cent. of the atmospheric air, and it is due to the inhalation of oxygen that the blood is purified within the lungs, or, as it is said, becomes oxygenated, the oxygen gas taking the place of the carbonic acid gas, which is formed within the blood during its progress through the tissues. When combined with hydrogen it forms water, so that in every particular oxygen may be looked upon as an elementary body without which life could not exist. It can be artificially prepared by the action of certain acids upon oxides and binoxides, and has in recent years been largely employed in the treatment of diseases which interfere with the oxygenation of the blood, such as pneumonia, and in many instances doubtless has been the means, when thus administered, of tiding over a crisis which otherwise would have been fatal. It is due to the action of oxygen that the animal heat is maintained, and when administered in larger doses than that which is contained within the atmosphere it acts as a direct stimulant. In combination with many metals it forms what are called basic oxides, such as the oxide of potassium or potash, oxide of sodium or soda, the oxide of iron, etc. It is soluble to a considerable

extent in water, and in consequence of this fish are enabled to live in this fluid; were it not for this fact they would soon perish from suffocation. Oxygen in that form which we call ozone, which is supposed to be a bin-oxide of oxygen, is also a powerful disinfectant, and is the agent which acts in the bleaching of articles exposed to the atmospheric air. Water may be highly charged with oxygen, and has been sold as a medicinal substance as oxygen water, the water being surcharged with oxygen under considerable pressure.

*Oysters* are not only wholesome and nutritious shell-fish, but can frequently be digested, and will lie upon the stomach when other articles of diet may be rejected. They are therefore a wholesome diet for invalids suffering from irritability of the stomach or weak digestion, and, moreover, have the property of stimulating the appetite. Recently it has been demonstrated that oysters taken from impure water have been the cause of serious typhoid epidemics. It would appear that the bivalves are able to absorb the microbes of this disease without sustaining any injury themselves, and are thus enabled to propagate the disease amongst those who partake of them.

*Osone* is a substance of a penetrating odour, and is supposed to be generated in the atmosphere by the action of the electric fluid. It is a powerful antiseptic and oxidising agent, and performs many important functions, the most notable of which is the decomposing of organic and offensive matters in the atmosphere, thus purifying it. It is found in the greatest abundance near the sea and during snow and thunder-storms, and may be readily detected by exposing a paper moistened with a solution of iodide of potassium, which it turns brown by combining with the potassium and liberating the iodine. As has been stated in the article on oxygen, ozone is supposed to be the peroxide of oxygen, or oxygen in a concentrated condition, just as we know the diamond is

carbon in a pure and more concentrated state. The peroxide of hydrogen is now employed in surgery as a deodorising and antiseptic application where suppuration in deep-seated cavities exists.

*Pain* may be described as an aggravated irritation of the nerves. It may be said that it is due to an aggravated irritation, of which sensation is the modified form. Injury to the nerves in every instance produces pain, whereas slight contact may produce a pleasing sensation, which, when increased, may give rise to what we recognise as tickling, and this may be carried to such an extent as to so excite the nerves that it produces actual pain, and if persisted in, delirium. Pain, in one sense, is a provision of nature to enable us to recognise injuries, and the fear of it is such as to make us take every precaution to avoid it. By the fact of pain being present in any particular locality of the body, the physician is enabled to form his diagnosis, and the character of the pain will often enable him to determine whether it is of inflammatory, neuralgic, or rheumatic origin. It is a well-known fact that nervous people bear pain with much less fortitude than those of a more phlegmatic nature. It is therefore not always an evidence that the pain is severe because the patient complains bitterly of it. Some people would appear to be entirely devoid of the sensation of pain, even when they require to undergo operations of a serious nature, while others are the very antipodes of this. Nature has, however, provided means by which pain can not only be alleviated, but entirely destroyed; and operations which were at one time impossible are now, by the introduction of chloroform, rendered not only painless, but free from many of the risks which formerly would have attended them. The author has frequently had patients under chloroform, who have required operations necessitating the greatest care, attention, and leisure in their performance, without the slightest appearance of danger presenting itself. When pain is

local, or due to disease, the most popular remedies are—opium, hyoscyamus, cocaine, etc. A substance called exalgine has been recently recommended in the treatment of certain painful affections, but, so far as the author's experience goes, it has proved perfectly useless. See *Nerves, Opium, Cocaine, etc.*

*Painter's Colic* is due entirely to the absorption of lead from the paints which he employs in his daily occupation. Its symptoms are—severe colicky pains, amounting to cramp in the abdomen, attended with obstinate constipation, and generally a blue line will co-exist at the margin of the gums.

*Painter's Paralysis* is a more advanced stage of lead poisoning than the foregoing, and the disease usually attacks the wrist, causing what is termed drop-wrist.

*Paints and Painting*.—Many injurious effects frequently result from the occupying of newly painted houses or rooms, in consequence of the unhealthy emanations which proceed from the walls before the paint is properly dried and all the volatile substances have passed off. Green paint is especially pernicious, as, in many instances, it contains arsenic in considerable quantities, and this substance being to a large extent volatile is liable to impregnate the atmosphere, and cause arsenical poisoning with its painful concomitants.

*Palate* is divided into hard and soft; the hard is that portion of the mouth which is arched by bone and covered by mucous membrane and is continuous with the soft palate, which stretches backwards towards the uvula and is devoid of bone. The soft palate is bounded on the posterior aspect by the uvula and the two pillars of the fauces, between which, on either side, is placed the tonsil. The soft palate acts during swallowing, and prevents the food from getting access to the posterior nares. The mucous membrane covering the palate is liable to many diseases, amongst which may be mentioned, aphtha, or thrush,

which most frequently attacks infants or those suffering from acid dyspepsia ; diphtheria, which, as is well known, is due to the deposit of a specific germ upon the mucous membrane ; and paralysis, which is invariably due to some disease of the brain affecting the nerve supply of this important membrane. Both the hard and the soft palate may be the seat of an abnormal condition called cleft palate, which is due to incompleteness of the union which takes place between the two sides of the body in the foetus. This, however, can be remedied by operation, by which the deformity is safely overcome. It does not appear that the organ of taste resides in the palate ; on the other hand, it seems to be confined to the tongue.

*Pallliatives* are medicinal agents which are intended to relieve symptoms rather than cure the diseases which these symptoms indicate. Too frequently there is no alternative in the treatment of certain diseases than to administer pallliatives, for the cogent reason that the disease is beyond all human aid—*e.g.*, when cancer has gone beyond a certain point, and is no longer within the range of operative interference, all that can be done is to palliate the symptoms by administering anodynes, and thus render the life of the patient more endurable than it otherwise would be.

*Palpitation of the Heart* consists in a perturbed and tumultuous action of that organ of which the patient is painfully sensitive. It may give the sensation of a fluttering movement about the region of the heart, or of a thumping sensation against the walls of the chest. Palpitation may be either functional or organic in its origin, or it may depend, as it frequently does, upon an excited condition of the individual, either fear or joy producing this unpleasant sensation. It is a very common symptom in certain nervous diseases, and is especially prevalent in nervous women, and when anaemia is present, especially after slight exertion. The distended condition of the stomach arising from dyspepsia likewise frequently gives

rise to this unpleasant sensation. In these circumstances, palpitation is more due to mechanical interference with the proper action of the heart, and is therefore not to be viewed with such seriousness as people are liable to estimate it at. Hysterical women are especially liable to palpitation, and in consequence may become very apprehensive as to their bodily health, which invariably has a most pernicious effect upon their already weakened organism. Palpitation, however, may, and very frequently does, accompany actual disease of the organ itself, when, of course, it becomes a matter of very serious import both to the individual and to the medical attendant. When palpitation arises from nervous disturbance it becomes necessary to ascertain the cause of this, and by judicious treatment endeavour to accomplish its removal. When due to hysteria, as it frequently is, temporary relief may be given by the administration of a tea-spoonful of the ammoniated tincture of valerian, in water, every two or three hours. When the stomach is at fault the same medicine will often prove beneficial; but, of course, the great point is to endeavour to regulate the diet and improve the functions of digestion. If anaemia is the cause, then iron should be given after each meal, but always accompanied by a slight laxative, as it will be found in these circumstances that the lower bowel is sluggish. When this distressing symptom, however, depends upon disease of the heart it will be necessary to administer digitalis, preferably in the form of infusion, in table-spoonful doses, three or four times a day, or tincture of strophanthus in five-drop doses, every four or five hours.

*Palsy* is the old name which has now been superseded by that of paralysis, which see.

*Panacea* is purely a mythical term having reference to a remedy which is supposed to cure all diseases.

*Panada* is a food which may not only be partaken of by children and invalids, but by the robust as well, as it

contains all the elements which the body requires for its nutrition. It is prepared by pouring boiling milk upon bread, and allowing it to soak thoroughly, after which it may be sweetened to taste and partaken of freely.

*Pancreas* is that narrow gland which is situated behind the lower portion of the stomach, and extends from six to seven inches in length. It secretes pancreatic juice, which resembles the saliva in many of its properties, possessing as it does the peculiar properties of digesting starch and emulsionising fats. Its duct enters the duodenum by the same opening as that which carries the bile from the liver, and the two fluids mingling with each other act upon the digested food, or chyme, and transform it into chyle. See *Digestion*.

*Papilla*, or Little Pap, is a small eminence upon the surface of the mucous membrane or skin. Those minute points on the tongue upon which the nerve of taste is distributed are called papillæ.

*Papules*, or Pimples, occur as slight elevations on the surface of the skin, and are characteristic of many diseases of this membrane ; small-pox, chicken-pox, herpes, acne, lichen, impetigo, all commence as papules at first, as also do boils and carbuncles.

*Paralysis* is the loss of sensation and the power of motion in one or other parts of the body which are supplied by nerves whose functions have been obliterated by disease or injury. Occasionally, loss of sensation may exist without the power of motion being interfered with, but this is a very rare occurrence indeed. Generally, it is the power of motion which is affected, that of sensation being left intact, or if it is involved it may be only so to a slight degree. Paralysis of motion may be confined to a limited portion of a limb or to the whole of it, or it may extend only to the lower extremities while the upper portion of the body is unaffected. In a few instances it may affect the whole muscles of the voluntary system, so

that life is entirely dependent upon nervous activity being still produced in the involuntary or sympathetic nerves. When paralysis affects one side of the body it is generally due to some interference with the blood supply, or to the rupture of a blood-vessel and a deposit of clot in the opposite side of the brain. This form of paralysis is termed hemiplegia, and is, in the majority of instances, due to apoplexy, which refer to. There is, however, another form of brain disease, called congestive apoplexy, in which actual rupture does not take place, but where effusion within the cranium is liable to occur. Such cases may, and do, frequently recover, but when the congestion has proceeded so far as to cause undue pressure upon the brain substance it is not so liable to pass off without leaving some paralysis behind it. Paralysis may likewise occur from pressure upon the brain, as the result of accident or from the presence of tumours or abscesses within the cranium. Of late years surgical measures have been devised by which these can be removed and the paralysis cured. Certain symptoms which the case points to will enable the surgeon to locate the seat of the tumour, upon which he may be able to cut down by means of the trephine and remove the cause of the mischief. The symptoms which generally indicate that paralysis is pending are, a feeling of numbness and prickling in the part, and when such symptoms do appear particular attention should be paid to them, and every effort made to remove their cause. When, however, paralysis comes on suddenly it is generally accompanied by a plethoric condition of the blood-vessels of the head and a tendency to vomit. Under these circumstances the judicious abstraction of blood and the administration of a free purgative should at once be resorted to, while to the extremities and abdomen mustard poultices should be freely applied. Frequently the first symptom indicative of paralysis will be observed in the face, when the mouth appears to be twisted

in consequence of the muscular action being confined to the healthy side, by which the paralysed side is drawn out of position. When paralysis has been established for a considerable time much may be done to restore sensation and motion to the parts by the judicious and persistent application of massage combined with electricity. At the same time the various functions of the body should be carefully attended to, and the patient be kept warmly clothed. It is a curious fact that, although paralysis so frequently results as a consequence of apoplexy, the mental functions of the individual may not be interfered with to any great extent for a considerable period after the attack ; as, however, one attack is frequently succeeded by another and another until death ensues, we may conclude that the paralysis is not due so much to disease of the brain itself as to an unhealthy condition of the walls of the arteries, which are therefore easily ruptured, and effusion of blood within the brain consequently takes place. If the attack occurs in a person of a very full habit of body the chances are that apoplexy is the cause, although the disease may, and frequently does, attack people of the very opposite temperament. If an attack occurs during the absence of medical assistance the patient should be kept very quiet, cold being applied to the head and heat to the extremities, while, if possible, a free evacuation of the bowels should be ensured either by a brisk purgative or by the administration of an enema, while, if there is much faintness, the patient may have a tea-spoonful of salvolatile or a small quantity of brandy water administered every little while with a view to overcome the shock which necessarily follows. When the lower limbs are paralysed and the upper portion of the body is left unaffected, this form of the disease is named paraplegia, and is usually due to some injury or disease of the spinal cord or its membrane. If arising from disease of this important structure it may generally be looked upon as hopeless. When injury,

however, or pressure is the cause a great deal can be done by rest and counter-irritation. The premonitory symptoms of this affection are, an intense hyper-aesthesia of the skin, accompanied by the sensation as if insects were creeping over its surface ; when this occurs, it is well that the most careful investigation should be made into its cause. Many forms of local paralysis frequently present themselves for treatment, such as paralysis of the optic nerve, called amaurosis ; or the cheek may be paralysed temporarily by exposure to cold ; one hand also may be paralysed in a single night by the effect of pressure upon the nerves which supply it. In such circumstances, that is when the paralysis is brought about by any such local injury, a smart mustard poultice or a fly blister may frequently give relief to the symptoms. Then, again, paralysis may occur in some of the nerves of special sense, such as that of sight, as has been already noted, or hearing, taste, and smell. The power of articulation or swallowing may also be lost or deteriorated by the motor nerve supplying the lips, tongue, and other organs within the mouth being affected. Loss of voice is not an uncommon effect either of cold or hysteria, both of which give rise to a depraved condition of the nerves supplying the larynx. *Lead Paralysis*, or *Drop-Wrist*, has been referred to in the article upon lead poisoning. This, of course, is due to the poison having gained access to the system, and producing its specific effects upon the nerves supplying the fore-arm and hand ; but it may affect other muscles besides that of the arm, such as those of respiration, when, of course, the disease rapidly proves fatal. *Shaking Paralysis* is generally the result of old age, and is, as a rule, traceable to some degeneration coming on within the brain substance. Alcohol also may produce this temporarily by its pernicious effect upon the nervous system. Mercurial tremor is also a form of paralysis which is due to the absorption of mercury by those who work with that metal. Paralysis,

however, is a disease of such import that in every instance medical assistance should be called in without loss of time wherever even a failing of the nerve force seems to be apparent. See *Apoplexy, Nerves, Brain, etc., etc.*

*Paralysis, Infantile*, or Children's Paralysis, is a subject which has for long occupied the attention of the medical profession. It may take its origin from some irritation quite distant from the part of the body affected—that is to say, the irritation is reflected through the nervous system by the nervous centres which supply that particular portion of the body. Amongst the most potent factors in this disease are irritation of the bowels, either from the retention of fæces, the effects of worms, or indigestion. A dose of scammony and calomel will generally suffice to restore the parts to their active condition, while the paralysed limb should be well rubbed with some stimulating embrocation. In some instances, however, the disease does not yield to treatment, and chronic paralysis may result from what appears at first sight to be a comparatively trivial cause. Electricity combined with the administration of strychnine in small doses will often have a most beneficial effect even if the disease has become chronic, and if this is combined with massage for a lengthened period the disease may frequently be overcome. A peculiar form of infantile paralysis has been named St. Vitus's dance, from the fact that, in consequence of the nerves supplying the muscles being affected, these lose control of the parts. This affection, however, is usually associated with a rheumatic condition of the constitution, and may result from a child of this peculiar constitutional tendency being exposed to damp, or having been affected by some local inflammation, or irritation from teething, worms, or constipation. It may follow in the wake of violent coughs, such as spasmodic croup or whooping-cough, but in every instance there will be a hereditary or congenital tendency to the disease. Then, again, a fall or a blow may give rise to

paralysis in children. Tuberclie, when it affects the brain or its membranes, not unfrequently results in infantile paralysis.

*Paraplegia*, or Paralysis of the Lower Portion of the Body, is due either to injury or disease of the spinal cord or its membrane. See *Paralysis*.

*Paregoric*, or Paregoric Elixir, is the compound tincture of camphor, or camphorated tincture of opium, as it is now called. Half an ounce of this liquid contains one grain of opium, and it is used principally in the treatment of affections of the air passages. It is a useful curative agent in the incipient forms of catarrh, when it may be taken in ten-drop doses every two hours by an adult, and will frequently cut short an attack.

*Parietal Bone* is one of the bones of the skull, which refer to.

*Parotid Gland* is the largest of the salivary glands. It is situated a little below, and in front of the ear, and fills up the space beneath the angle of the lower jaw. This gland is frequently the seat of disease, and would appear in some unaccountable way to have peculiar relations with the ovaries and testes, for we find that diseases which attack the parotid gland may, by the process of metastasis (which see), fly to one or other of these distant glands. The parotid gland is that which is affected in the disease called mumps; it is also frequently the seat of tubercular disease, and abscesses in these circumstances may readily form within its substance, and when neglected give rise to ugly scars upon the neck, which are popularly termed "scrofulous."

*Paroxysm* is a periodical aggravation of certain symptoms occurring in the progress of a disease, such as neuralgia, toothache, ague, mania, coughs, cramp, etc.

*Parturition* is the term applied to the giving birth of young. See *Child-bed*.

*Passion* is a hyper-excited condition of the nervous

system, which many people are too prone to. If allowed to take possession of one it is liable to go beyond all control, and the more it is indulged in the greater hold does it appear to take of the individual possessed. It would appear to have a most exciting effect upon the sympathetic or ganglionic system of nerves, and in consequence it is liable to have a pernicious effect upon the heart's action, and in many instances, doubtless, has been the direct cause of not only impairing its functions, but causing them to cease altogether, and therefore result in sudden death.

*Patella*, or the Knee-cap, is that small oval bone which is inserted in the powerful tendon of the extensor muscles of the thigh. It serves at once to protect the knee-joint, and at the same time acts as a pulley in the movements of these muscles. The knee-cap is liable to injury, and especially to fracture. It may be torn across when the muscle is in strong action and the person falls upon the knee, or from a direct blow upon the part. The fracture is not difficult to detect because of the powerful contraction which takes place in the muscle, by which the upper fragment is drawn upwards so that a deficiency is occasioned by the separation of the upper fragment from the lower. It is somewhat difficult to replace and keep these fragments in position, and this object can only be attained properly by suturing the two fragments together by strong wire, a hole being bored in the upper and lower fragments, and the wire afterwards passed through these holes and secured. Such an operation can now be accomplished without encountering the dangers of suppuration if anti-septic precautions are employed. The limb must then be kept at perfect rest until complete union has taken place between the fragments.

*Patent Medicines* are those quack remedies which, as a rule, have for their only object the filling of the pockets of their vendors.

*Pathology* is that science which treats of the nature of

disease. Without a thorough knowledge of this important department of medicine no one can be competent either to diagnose or treat disease.

*Pea*.—The common garden or green pea when eaten young is both wholesome and digestible, but when it has advanced towards ripening the outer skin becomes so hard and tough that it is impossible for the gastric juices to act upon it, and therefore it is liable to pass through the canal in the same condition as it was taken into the stomach, or be caught in the folds of the large bowel and set up irritation and even inflammation. When this occurs a dose of castor oil should be taken with a view to removing the irritant. Young peas contain a considerable amount of saccharine matter, but when they are old and dry they contain an amount of nitrogenous material which renders them highly nutritious. When made into meal and taken in the form of porridge they can frequently be digested by delicate stomachs when other articles of diet would not agree.

*Peach*.—This well-known fruit, although by some considered indigestible, is, when eaten in moderation, a most wholesome fruit. As is well known, stone fruits are more indigestible than others, so that they always require to be partaken of sparingly. The peach kernel, as well as the blossoms and young leaves, contain prussic acid in considerable quantities, therefore they must be avoided on all occasions.

*Pear* is a fruit which requires great discrimination in selecting, as some varieties, in consequence of the gritty matter they contain, are indigestible and cause irritation of the mucous membrane of the bowels.

*Pediculi*, Ticks, or Lice, are invariably the result of filth and negligence. They inhabit the hair and skin of certain individuals, and are frequently an indication of debility of the individual infested with them. Cleanliness, however, will as a rule remove them and be a preventative of a

future attack. With a view to their destruction the parts should be thoroughly washed and a little mercurial ointment well rubbed in, which will act as a direct poison upon the parasites, while the nits or eggs which are attached to the hair may be destroyed by applying strong acetic acid.

*Pelvis* literally means a basin. It is the term given to that portion of the human frame which is situated at the lower extremity of the spinal column, and is made up of the sacrum, the illiac, the pubic, and the ischial bones. It contains within its cavity, and protects from injury, the bladder, rectum, womb, and ovaries. The hip-joint is formed partly by the cup-shaped cavity called the acetabulum, which is situated on the side bones of the pelvis. These bones, although in three divisions in early life, are consolidated in the adult bone, which is then termed the ossa innominata. The pelvis is so built as to yield the greatest strength with the least amount of weight. The sacrum, or lowermost portion of the spinal column, is fixed within the pelvis by an arrangement corresponding to an inverted arch; thus, the pelvis is able to support the weight of the body in the most satisfactory manner. There is a considerable difference both in the shape and proportions of the male and the female pelvis, the latter being more roomy, which is essential to child-bearing, for the passage of the infant. It frequently occurs in rickety women that the pelvic orifice is contracted, and this not only gives rise to great difficulty in parturition, but may prevent it altogether, and in such circumstances it has been frequently necessary to resort to what is termed the Caesarian section, which operation necessitates the opening of the abdominal wall and then cutting through the walls of the womb and delivering the child in this way. This can actually be accomplished with less danger to the mother (and with perfect safety to the child) than the old method of performing craniotomy, or breaking up the child's head within the womb. The pelvis in women has

the power of being expanded to a considerable extent, thus aiding very much in the passage of the child. Fracture of the bones of the pelvis occasionally takes place, and is always a serious accident and difficult to repair. Abscesses are sometimes met with within the pelvic cavity, as also are inflammatory affections of the cellular tissue, when pelvic cellulitis is said to exist. Then, again, rupture of certain vessels may take place within this cavity, and give rise to what is called hæmatocoele, which is a tumour composed of blood clot.

*Penny-royal* is one of the mint tribe of plants found in wet places in England and throughout Europe. It is not a drug that should be used indiscriminately, especially for the purpose of exciting the functions of the womb. The only popular method in which it can be employed safely is for the purpose of driving away fleas, which power it is said to possess.

*Pepper*.—Five kinds of pepper are employed domestically and medicinally, viz., for domestic purposes, the black, white, and cayenne peppers, cubeb and matico being those employed in medicine. They are all aromatic and pungent in taste, while those which are employed for table purposes render the food more palatable, and at the same time promote digestion to a certain extent by their stimulating effect upon the mucous membrane of the stomach. Both black and cayenne peppers are employed externally as counter-irritants, either as tinctures or combined with some fatty substance, but they are very much more painful in their effects than mustard, and not any more efficacious—therefore they are not to be recommended to the same extent. Cubeb pepper is used largely in the treatment of inflammatory affections of the mucous membranes, and in the form of cigarettes it is a popular remedy for the treatment of catarrh in the head.

*Peppermint* is one of the most popular domestic remedies for flatulence that we possess. It is given either in the

form of peppermint water or lozenges, and holds a high place in domestic medicine.

*Pepsine*.—There are several forms of pepsine, which differ only in the fact that the stomachs of various animals are used in its preparation. When made from a pig's stomach it is to be preferred before any other, and this is due to the fact that the pig's stomach resembles the human stomach in its adaptability to an omnivorous diet. There can be little doubt that pepsine, when given to people suffering from a weak condition of the stomach, aids very much in promoting digestion. It may be taken alone or combined with an aromatic, or an alkali, or with both. The following mixture will prove a most useful preparation of pepsine, which may be taken by persons suffering from indigestion, in which flatulence is a prominent symptom:—Pig's pepsine and aromatic powder, of each three drachms; bi-carbonate of soda, one ounce; calcined magnesia, half an ounce—mix, and take half a tea-spoonful in water three times a day after meals. The method of preparing pepsine is as follows:—The stomach of the animal should first of all be washed with cold water, and all the mucous membrane scraped off with a blunt knife. This pulp is spread out on flat glass or porcelain vessels, and dried at a temperature not exceeding 100 degrees. The dried residue is then reduced to powder and preserved in stoppered bottles.

*Percussion* is employed in medicine for the purpose of ascertaining by percussing the body, especially over the chest, the condition of the organs lying beneath. It is also used for ascertaining the exact dimensions of the various organs, such as the heart, liver, stomach, etc. A dull note produced over the lung indicates that air is not passing sufficiently freely into that organ, while a sharp or resonant note produced over the stomach points to the fact that there is considerable distention from flatulence; and so on.

*Perforation* is that term which is applied chiefly to the

formation of an opening from some portion of the alimentary tract into the peritoneal cavity. When this takes place, peritonitis with a fatal consequence must be anticipated if very prompt measures are not taken, and the abdominal cavity opened so as to ascertain the seat of the perforation so that the integrity of the bowel may be restored. At the same time the peritoneal cavity must be thoroughly cleansed of any foreign matter that may have found entrance into it. Perforation may take place as a result of ulcer of the stomach, or in the progress of enteric fever. Females who are anaemic are more liable to ulceration and perforation of the stomach than those in good health. The severe pain that results from this accident may be, for the time being, relieved by the judicious administration of laudanum or solid opium—20 to 30 drops of the former may be administered every two hours, and from one to two grains of the latter may be given at like intervals, but the most efficacious method that can be adopted is the subcutaneous injection of morphia.

*Pericardium*, the bag in which the heart is enclosed. Its interior surface resembles that of the synovial membrane of the joints, and is provided with a lubricating fluid somewhat similar to that which lubricates the joints.

*Pericranium* is the membrane which covers the inner surface of the bones of the skull, just as the periosteum covers the outer surface.

*Perineum* is that space which is situated between the anus and the genital organs. It is liable to serious injury during child-birth, in consequence of rupture which sometimes occurs during the passage of the child's head. When this accident occurs it should immediately be repaired by the medical man in attendance, as, if it is allowed to persist, it invariably gives rise to displacement of the womb, in consequence of its being deprived of the support of the perineum. If, however, the rupture has been permitted to exist, and the consequences due to it have arisen,

it can be repaired by surgical operation. Falling astride upon any hard substance may bruise the perineum, and give rise to serious mischief in the urinary passage and bladder. This, of course, requires surgical interference. See "Woman in Health and Sickness," by the Author.

*Periodicity* is the term applied to the onset of well-marked symptoms which are characteristic of certain diseases, such as the return of the paroxysms of ague, the regularity with which eruptions characteristic of certain diseases appear—*e.g.*, scarlet fever, small-pox, measles, etc.

*Periosteum* is that membrane which adheres closely to and envelops the bones of the body, except where cartilage exists in the joints. Inflammation of the periosteum causes most intense pain in consequence of the closeness with which it adheres to the bone, so that effusion taking place between the periosteum and the bone is unable to find exit or expansion, and therefore the pressure of the parts is intense and the pain excruciating. The periosteum is liable to rheumatic affections, when nodes or elevations take place and constitute highly sensitive points. If the periosteum is destroyed, death of the denuded portion of bone generally takes place.

*Peritoneum* is the membrane which lines the abdominal cavity covering both the inner surface of the abdominal walls and its contents, to which is given the general name viscera. The peritoneum is a complete sac composed of one continuous membrane. It secretes a serous fluid which enables the various organs contained within it to move freely and without injury to themselves. Certain diseases, especially of the liver, heart, and kidneys, give rise to dropsical effusion, which exudes from this membrane, as also does inflammation. The peritoneum requires to be opened in all operations where the ovaries, fallopian tubes, or womb require surgical interference; and since anti-septic measures have been adopted and carried out thoroughly these operations can be performed with almost

uniform success, whereas, in the olden days, before sepsis was thoroughly understood, the death-rate was something enormous, so much so, indeed, as almost to preclude any operative interference which necessitated the opening of the abdominal cavity.

*Permanganate of Potash* is employed in solution as an antiseptic and disinfectant. Condy's fluid is simply a solution of permanganate of potash. It is prescribed in pills to bring on menstruation when it is tardy.

*Perspiration*, the natural secretion of the skin, whereby radiation takes place and the temperature of the body is kept at its normal standard. Excessive perspiration especially at night, is frequently a grave symptom of disease, and generally exists when consumption is far advanced. A dry skin, on the other hand, always indicates an unhealthy condition, and is invariably an accompaniment of fever. See *Skin*.

*Peruvian Bark* is the proper name for cinchona bark, from which quinine is manufactured. It has excellent tonic properties, and before the discovery of its alkaloid it was largely employed in the treatment of ague.

*Pessaries* are instruments of various shapes and made of different materials, which are used to support the womb when displaced. Great improvements have been made in the manufacture of this instrument during the past few years, but the great fault that they all have hitherto possessed is, that they are too rigid, too difficult of introduction, and liable to cause ulceration of the parts by unduly pressing upon the soft structures with which they are in contact. The author, however, has introduced a pessary which accommodates itself to the different movements of the body by being hinged at the top and bottom, so that no pressure can be continuously brought to bear upon any one point.

*Petechiæ* are spots which appear upon the skin in some fevers, such as typhoid, when they appear upon the

abdomen ; typhus, when they appear upon the chest. They resemble fleas' bites in appearance, and are not unfrequently mistaken for them. These spots, when characteristic of fever, have certain localities where they appear and develop in colour and form according to the distinctive fever of which they are symptomatic.

*Petroleum* literally means rock oil, although it is only procured from wells and exudes through the soil, or is pumped up by suitable machinery. Originally it was obtained from shale, which is simply hardened mud containing the oil within its substance and from which it is distilled. This oil is the result of decomposition of both animal and vegetable substances, in which the animal matter must predominate to a very large extent. Vaseline is one of the products of petroleum, and is now largely employed in the manufacture of ointments and as a local application by itself. It has the appearance of a pure jelly, is inodorous, and does not decompose, therefore is not liable to become rancid. Petroleum is a thorough antiseptic, and may be applied locally as a slight stimulant. It has been recommended on account of its stimulating properties as an application to the head for promoting the growth of the hair. It has also been employed in certain skin diseases, and in rheumatic affections of the joints and muscles.

*Phagedenic* is a term which is almost only applied to certain forms of ulcers where the destruction of tissue proceeds to an inordinate extent. It is generally an indication of great weakness and of an unhealthy constitution, and is specially liable to occur in the progress of scrofula, syphilis, and where certain microbes have located themselves upon already weakened tissue, such as in malignant sore throat of scarlet fever, diphtheria, or where the individual's health has been severely prostrated by living in an unhealthy atmosphere, such as in overcrowded or badly-drained dwellings. In years gone by it frequently occurred

in hospitals from want of attention to those laws which we now know are essential to health, viz., overcrowding, bad ventilation, and emanations from decomposing sores. It then went under the name of hospital gangrene, a disease which may now be said to be completely extinct.

*Pharmacopœia*—literally, full of medicines—is that work which is prepared by legally authorised men appointed for the purpose, and is the guide to the medical profession in the country where it is in use. Instead of one pharmacopœia being used in England, one in Scotland, and one in Ireland, as it used to be, all three countries now employ the same, viz., the British Pharmacopœia, in which are contained the names of all the medicines, their mode of preparation, and the doses which are used by the registered medical practitioner; and as new remedies are brought into use they are in time added to the pharmacopœia.

*Pharmacy* is the art of preparing and dispensing medicines.

*Pharynx* is that part of the air passage which is continuous with the back of the nares and the upper part of the wind-pipe and throat.

*Phenacetine* is one of the most useful and widely-applied medicines that have been introduced into the pharmacopœia within recent years. As a febrifuge it is unsurpassed, and is capable of reducing the temperature of the body several degrees in a very short space of time in cases of fever. It is also a soothing agent to the nervous system, and has powerful anti-neuralgic properties. It is tasteless, odourless, and insoluble in water, and therefore should be given dry upon the tongue and washed over with a little water. It is, moreover, perfectly harmless when judiciously administered. It has only been in use as a medicine for about eight years, and yet it has probably been the means of saving more life than any other known medicament.

*Phlebitis* is inflammation of the veins, and is recognised by pain, a corded feeling of the vessels, and swelling in the

neighbourhood. It may arise from blood poisoning, but is most frequently encountered after child-birth, when it goes under the name of white leg, in consequence of the swollen and glossy appearance that the leg presents when phlebitis is present.

*Phlebotomy* is the cutting of a vein, and is the term usually applied to blood-letting.

*Phlegm* is the popular term applied to mucus, such as is secreted in the air passages.

*Phlegmasia Dolens* is white leg, referred to in the article on phlebitis. It occurs after child-birth, and is due to an inflammatory condition of the veins of the leg, which, preventing the return flow of the blood, gives rise to dropsical swelling of the limb and tenseness of the skin, which causes the glossy appearance characteristic of the disease. It is an affection very difficult to remove, and invariably leaves the patient weak for a considerable period after it has apparently disappeared. When this disease makes its appearance medical aid should be procured without delay.

*Phlegmon* is the term applied to that very acute form of inflammation which results in the death of the tissue that has been attacked, such as in erysipelas, when the subcutaneous tissues have been involved and slough has formed in consequence of the virulence of the poison.

*Phosphates* are composed of phosphoric acid in combination with certain alkaline bases, such as soda, lime, potash, ammonia, etc. These phosphates have become very popular of late years as nerve tonics, but the hypophosphites, which are the compounds of phosphorous acid with these bases, being much more readily decomposed, have taken the place of the phosphates to a very large extent, and have become popular remedies in the treatment of nervous prostration, consumption, and where general tonic treatment is required. The most popular preparation of the hypophosphites is Fellow's compound syrup of the

hypophosphites. This can be procured almost everywhere, and can be taken with perfect safety by young and old.

*Phosphorus* is that elementary body which oxidises so rapidly, that immediately it comes in contact with the atmospheric air it bursts into flame. It is a deadly poison, having most irritating properties, and yet, when taken in small doses, is one of the most useful medicines which we possess, especially in the treatment of various kinds of neuralgia. It enters largely into the composition of animal bodies, but is always found there in the shape of salts, such as the phosphate of lime, which is the principal constituent of bone. It is contained in the seeds of grains, and is also a constituent of the albuminous fibrous compounds of the human frame. It was discovered in 1669, and was at that time prepared from urine, from which it was extracted by distillation with charcoal. It is now, however, procured by decomposing the various salts, viz., those of lime, magnesia, potash, etc., which exist in the soil. It is also an important element in the composition of brain and nerve. When given as a medicine in its pure state it requires to be prepared with the very greatest of care, as the most minute particle of phosphorus coming in contact with the mucous membrane of the stomach would set up intense irritation. It should, therefore, be rubbed up with some substance, such as wax and balsam, so as to divide the phosphorus and distribute it completely through the substance which is selected. From  $\frac{1}{50}$  to  $\frac{1}{30}$  of a grain of phosphorus, given after food, is quite sufficient for a dose. Of late years phosphorus pills have been manufactured on a large scale by pill-makers, and at so small a cost that when this substance is prescribed it is much better to name the maker in the prescription, so as to ensure its proper manufacture. There are several firms who devote themselves largely to the manufacture of pills, and one of these should invariably be selected. The emanations from phosphorus, especially in the manufacture

of matches, is well known to give rise to disease of the bones in those employed in the factories. The lower jaw-bone is specially apt to become affected, and necrosis, or death of the bone, to ensue, causing abscesses in the immediate vicinity of the necrosed bone, and necessitating operative interference for its removal. These accidents from inhalation of phosphorus, however, are becoming rarer and rarer in consequence of the phosphorus not being employed in its old form, but in what is termed the amorphous condition, which does not volatilise like the ordinary phosphorus. Considerable risk is sometimes run by children getting possession of lucifer matches and sucking the heads off. Numerous cases of poisoning are on record which have resulted from this accident. If a child has found a box of matches from which he has sucked the phosphorus the mouth will be found to be quite luminous in the dark, and the child will probably complain of considerable pain in the pit of the stomach. The first thing to be done is to induce vomiting as rapidly as possible, and give milk in large quantities. The white of egg is also another good antidote, but the great point is to have the stomach well washed out. Stimulants may be necessary if great prostration exists. Oil should *not* be given, because it has the power of dissolving the phosphorus, and thus distributing it to the intestines and promoting its absorption. One important point with reference to phosphorus seems to be ignored, both by our corporations and by individuals, and that is, that phosphorus is contained in large quantities in the excreta of the human body, both urinary and faecal, and yet, although it is a well-known fact that phosphorus in its various compounds is essential to the growth of vegetable life, this excreta, at considerable expense, is shipped away and buried in the sea instead of being utilised as it ought to be upon the land, while at the same time, at enormous cost also, phosphates, in the form of guano, are shipped from South America to act as

fertilising agents. Such an extraordinary paradoxical combination it is difficult to comprehend.

*Phrenitis*, or Inflammation of the Brain. See *Brain*.

*Phthisis* is a term which is applied to tubercular disease of the chest, when it is called phthisis pulmonalis, and of the bowel, when it is termed phthisis abdominalis. It is due to the deposit of the bacillus of tubercle, which develops within the chest cheesy-looking messes, which, eventually breaking down, cause ulceration of the lung tissue, and results in what is generally known as consumption. When it occurs in the abdomen it attacks the glandular structures, and results in atrophy, or emaciation, of the tissues of the body at large. See *Consumption*.

*Physic*, although it is a term which applies to medicine generally, now only refers to purgative medicines.

*Physician*, "M.D." or "Doctor of Medicine," are titles which are only rightfully assumed by those who have gone through the recognised curriculum at one of the universities or colleges, and who have thus been admitted to and passed the examinations necessary for the degree. The generally accepted meaning of the term physician is that which conveys to the public the knowledge that the individual who possesses this title treats the diseases of the body by medicinal means, in contradistinction to the surgeon, who confines his attention to the treatment of external complaints, or those internal diseases which require the performance of operations. Nowadays, however, the duties of the physician have encroached very much upon those of the surgeon, as physicians now frequently engage in operations which might be termed surgical, but these are for the great part confined to midwifery and the diseases of women. In every instance the physician requires to have as perfect a knowledge of anatomy as the surgeon, for without this he would be unable to diagnose the seat of disease, therefore unable to treat it successfully. Many medical men who are only

in possession of licences assume the title of physician, but this would only indicate the want of respect on their part for the general law of ethics which should govern every medical man. The duties of a physician do not always terminate with his knowledge of medicine, as it is necessary that he should be a gentleman, and one who can sympathise with and give confidence to his patients.

*Physiognomy*, or the Appearance of the Countenance, is invariably a great help to the medical man in forming an opinion as to the condition of his patient's health, and frequently enables him to obtain a fairly accurate knowledge of the disease from which he is suffering. Many diseases are stamped upon the countenance, and can be recognised without proceeding to any great length before the disease is actually identified.

*Physiology* is that science which treats of the functions of living bodies, and embraces biology, bacteriology, and pathology, and, in fact, dips into every branch of medical science.

*Pickles* are composed of vegetable substances preserved in vinegar. As a rule they are very difficult of digestion, and should therefore only be partaken of by those having a vigorous stomach. Great care should be taken by those who are fond of pickles to ascertain that the green of the vegetable is not preserved by means of colouring matter containing arsenic or copper, as frequently cases of poisoning have occurred from eating pickles thus prepared. Copper can be detected by introducing a piece of clean iron wire amongst the pickles, when, if this metal is present, it will become deposited in a thin layer upon the iron; or the suspected pickles may be placed in a bright iron spoon and a drop of sulphuric acid added, and then the mixture heated over a gas flame until evaporation takes place, when, if copper be present, it will be deposited on the spoon. If pickles are properly prepared they are wholesome and agreeable adjuncts to the dinner-table if

the digestive organs of those partaking of them are healthy. They have the effect of stimulating the appetite.

*Piles*, or Hæmorrhoids, are in reality, in the first place, a varicose condition of the hæmorrhoidal veins. This distended condition of the veins excites inflammatory action in the piles, when they become strangulated, and hence the severe pain which accompanies these little tumours. It is to the rupture of these enlarged veins that the hæmorrhage, which so frequently takes place during the evacuation of the bowels, is due. When they are extruded from the anus and come to the surface the mucous membrane which covers the piles becomes transformed into skin, and then the term "external piles" is employed. As is well known, hæmorrhoids are always accompanied by more or less pain and uneasiness at the anus, the pain oftentimes becoming very severe and overpowering. They also give rise to a grinding, down-bearing sensation round the loins, and altogether a martyr to piles is in a most melancholy condition almost continuously. The irritation caused by piles is frequently conveyed to the bladder and womb, and gives rise to irritability in both of these organs. The peculiar construction of the hæmorrhoidal veins makes them very liable to become varicose if anything obstructs the flow of blood within the vessels, and this is accounted for by the fact that these veins are not provided with valves which would otherwise give support to the column of blood contained within them. They are, in fact, simply tubes, and anything which interferes with the circulation in them naturally causes a congested condition of their lowermost ramifications; therefore constipation and a sluggish action of the liver are predisposing causes of piles. Pregnancy, in consequence of the pressure which is brought to bear upon the veins of the pelvis, is also a predisposing cause of this painful disorder; hence hæmorrhoids are not at all an unfrequent occurrence in women who have borne children. The preventative

treatment, therefore, of piles is to assure a healthy evacuation of the bowels every day, and not only will this act beneficially with regard to *this* disease, but upon the general health of the individual as well. There is no reason why one person should suffer from piles and another not, and there can be no real predisposing cause except neglect of nature's laws. It is a fact, therefore, that no one need ever be afflicted with this painful malady. If the bowels require assistance, and a tendency to piles exists, the best purgatives that can be employed in the circumstances are, cascara sagrada and milk of sulphur. Allen & Hanbury's tabloids of cascara may be taken in doses of one to three at bed-time, or a tea-spoonful of the milk of sulphur may be employed instead ; but the weight of experience all points to the fact that cascara is most beneficial. If piles actually exist it becomes a necessity that the bowels be moved by these means daily. Local applications are also to be employed, and the best of these is the extract of hamamelis or hazeline. The hamamelis can be employed either in the form of ointment or suppository, but to either of these preparations it is advisable to add some soothing agent, such as the extract of conium, or powdered opium. There would appear, however, to be only one real cure for haemorrhoids, and that is their removal by operation. The author can speak on this point from a very large experience, and invariably the results have been not only gratifying to himself, but surprisingly so to the patients, and as the operation can be performed with perfect safety it seems a pity that it should not be more universally resorted to.

*Pill* is that well-known and convenient form of administering medicine without any disagreeable taste being experienced by the patient. Now, almost any kind of medicine can be thus administered ; thus, the innumerable nauseous drugs which in olden times were wont to be prescribed by medical men, and which so frequently

interfered with their proper administration, can be given in a more concentrated state in the form of pill. The kinds of pill that are now in daily use are almost innumerable. The most popular of the aperient pills are—compound rhubarb, colocynth and henbane, blue pill, podophyllin, euonymin, cascara, aloin, belladonna, and strychnine. The latter is an excellent pill in the chronic forms of constipation which so frequently are met with, especially amongst females.

*Pimples* are usually due to some unhealthy condition of the blood, and, as a rule, are dependent upon constipation or to some inefficient action of the sweat glands. See *Acne, Boils, Hot Spots, etc.*

*Pine-Apple* in consequence of its fibrous nature is a fruit difficult of digestion, though it is highly nutritious if this difficulty can be overcome. The juice of the pine-apple has remarkable medicinal properties, in so much that it possesses powerful digestive properties, so that the actual principle of the juice is now largely employed in the treatment of indigestion.

*Pins and Needles*, in consequence of carelessness, often become fixed in one part or other of the body, the most dangerous position, of course, being the throat or stomach when they have been swallowed, through the foolish habit which some people indulge in of placing needles or pins in their mouth. When a needle or pin becomes fixed in any part of the body or foot the greatest care should be taken to have it extracted at once. A needle broken in the flesh is sure to go a considerable distance, as it naturally travels in consequence of one of its ends being sharp pointed and the other blunt. I have known a needle broken in the foot of a child to have been extracted from the wall of the abdomen.

*Placenta* is the after-birth which is expelled in a mass of a spongy appearance after the birth of the child. It is through the placenta that the child is attached to the

womb, and from which the infant receives its nourishment and oxygenated blood before its birth.

*Plague* is, or rather was, a disease well known long ago ; happily, however, it has passed into oblivion, from which, it is to be hoped, it will never emerge. It is a disease which evidently depended largely upon non-observance of hygienic laws. Nothing authentic upon this important, and at one time deadly, disease seems to be on record. Probably it was a virulent form of typhus fever. Its symptoms came on with a feeling of intense languor and lassitude, something like the precursors of typhus fever. Like other acute diseases it had a cold stage, though seldom of long duration, in consequence of the poison setting up such intense irritation within the body as to give rise to a high temperature. There was intense pain in the head and forehead, the eyes were heavy, dull, and muddy, just as we observe in patients who have the first symptoms of typhus fever. It would be absurd to state as a fact that the temperature of the patients suffering from plague becomes very high ; at the same time, judging from present experience, this was undoubtedly the case, and it was to this symptom being allowed to go on uncontrolled that the high death-rate was evidently due. It is stated that the expression of the countenance in plague changes in a very remarkable manner—sometimes there is a wild and furious look, sometimes a look which claims sympathy and commiseration in consequence of the sunken eye and contracted features which exist. Perhaps the most striking of all the early symptoms of this disease is the loss of power to retain the equilibrium, and this muscular weakness is evidently due to the strong current of fever which is running through the frame of the patient. All the functions are disturbed—the stomach becomes irritable, the tongue white, the bowels torpid and accompanied by most offensive discharges ; faltering of the speech is present, from the same cause as the staggering which

has been before noted ; the pulse becomes hard, rapid, and in a short time compressible. Afterwards large purulent buboes appear on the surface of the body. These are evidently due to the fact that the skin, in endeavouring to throw off the poison, becomes destroyed at certain points by the virulence of the virus. After two or three days, at the most, pains in the groin and armpits, or any other place where glands are present, indicate that pus is being formed in these localities. These pains are frequently very acute, and unless speedily followed by suppuration in the glands, the patient dies delirious from blood-poisoning. Carbuncles appear about the same time on any part of the body ; spots with purulent heads are, however, much more frequent than carbuncles, and when death is imminent it is frequently preceded by extensive haemorrhages from the mucous membranes. The duration of this virulent disease is various—sometimes a patient has been known to die within a few hours of the attack ; to many it has proved fatal during the first paroxysm or period, which includes the time from the evening of the attack to the close of the following night. The third, fifth, and sixth days are, however, mostly to be dreaded, that is, if the patient survives the first paroxysm. If the fifth day is passed, and suppuration has taken place in the glands which have been attacked, the patient may be said to be almost out of danger. The convalescence, however, is always tedious from the excessive debility which succeeds the continuous high temperature, this being due to the fact that an elevated temperature existing for a considerable time always has a most reducing effect upon the muscular activity of all the organs ; therefore the heart suffers to a very great degree. In the present state of our knowledge it would be quite out of place to attempt to give any rules as to the treatment of this terrible disorder, but common sense and experience would suggest that the first thing to be done, if plague again attacks the community, is to

reduce the temperature as rapidly as possible, and endeavour to keep it near the healthy standard by means of antipyretics.

*Plasters* are compounds of adhesive substances spread upon calico or leather, and may be classed as mechanical supports to cut surfaces, or, when combined with anodyne substances, as soothing applications, and when with irritants, such as cantharides, capsicum, mustard, etc., as counter-irritants. The various plasters which are in daily use are—the ordinary adhesive or resinous plaster, belladonna, menthol, cantharides, mustard, capsicum, pitch, lead, etc.

*Pleasure* is that cheerful excitement of the mind which gives rise to intense happiness, and is, in consequence, a preserver of health and a remedy in sickness. Nothing acts with such a tonic effect as pleasure does, and this is specially noticeable from the fact that change of air and scene, combined with pleasant society and delightful surroundings, have a most beneficial effect in promoting and establishing convalescence. Relaxation of all kinds gives relief to the mind, and therefore helps very much in restoring the weak to health and re-establishing the physical and mental powers which have been exhausted by disease or over-fatigue of mind and body.

*Plethora*, as its title indicates, is a fulness, and is the term which is applied to that condition of the system in which the blood-vessels are turgid and over-loaded. It is generally the result of indolence, over-eating, and over-indulgence of any kind. Some people are more prone to this condition than others, in consequence of their sanguine temperaments, while leading a life of inactivity and over-indulgence in food and drink. This condition predisposes to many diseases having most serious consequences, such as apoplexy and haemorrhages from the mucous membranes generally. When these haemorrhages take place in the nose, stomach, or lungs, this generally acts as a safety

valve, and relieves the pressure upon the brain, whereby apoplectic seizures are frequently averted. Fevers, or any disease in fact, occurring in such persons, are generally attended with much more serious consequences than when they attack those whose circulation is in a healthy condition. The great point to observe in the avoidance of plethora is to live naturally, to take plenty of exercise, to attend carefully to the daily evacuation of the bowels, and to avoid stimulants. See *Banting*.

*Pleura* is the serous membrane which lines both the inner surface of the chest walls and covers the lungs. It is a continuous membrane very closely resembling the peritoneum in construction. The surface of the lungs, and that of the chest, in consequence of being closely invested by this membrane, from which exudes a lubricating fluid, are enabled to move over each other with perfect freedom and without friction. When, however, this is inflamed the surface in which the inflammation exists becomes roughened, and therefore friction results during the movements of the chest, and intense pain is consequently experienced. Pleurisy is then said to exist, and in consequence of this inflamed condition the serous surfaces secrete the pleuritic fluid in undue quantities, which gives rise to what is called dropsy of the chest, or hydro-thorax.

*Pleurisy*, or *Pleuritis*, is a term given to that inflamed condition of the pleura which causes roughening of its surface, and, in consequence of the friction which is induced, intense pain becomes a prominent symptom of the disease. It is rarely, however, that the pleura is affected without disease in the neighbouring portion of the lung being also present, when pleuro-pneumonia is said to exist. It is always attended with a short, dry cough in its first stage, but afterwards the cough is accompanied by a rusty-coloured expectoration, and there is, invariably, considerable fever with a high temperature. Nothing

seems to give relief to pleurisy so rapidly as the prompt application of leeches over the part affected. If, however, the disease has existed for a day or two a fly-blister should be applied over the seat of inflammation. When the temperature is high phenacetine, in 10-grain doses, should be administered every four hours until this is reduced, while the bodily strength should be well maintained by a copious supply of milk diet in the form of arrowroot, sago, or tapioca gruels. For the intense pain, one grain of opium with one grain of calomel may be administered at intervals of three or four hours.

*Pleurodynia* is an affection of the chest wall, which, by many ignorant medical men, is often confounded with pleurisy, and many cases which are diagnosed as pleurisy are nothing more than neuralgia of the intercostal nerves. The pain that accompanies pleurodynia is sometimes most acute and commanding, and may well be confounded with the more serious disease, pleurisy. It, however, is unaccompanied by fever, and is generally the result of a weakened condition of the physical strength, accompanied by nervous prostration. The subcutaneous injection of one-sixth to one-fourth of a grain of morphia will give immediate relief, or eight grains of phenacetine combined with two grains of caffeine, given every four hours, will also be found to be beneficial; while the parts affected should be well rubbed in with a liniment composed of 2 drachms of menthol,  $\frac{1}{2}$  an ounce of chloroform,  $1\frac{1}{2}$  ounces belladonna liniment, every hour; and with a view of preventing a recurrence of the attack, the following pills given every two hours will act most beneficially, viz.,  $1\frac{1}{2}$  grains quinine, 1 grain caffeine, 2 grains of extract of hop, made into a pill, and taken as directed.

*Plummer's Pill*, or the Compound Calomel Pill, at one time was largely employed as an alterative and diaphoretic. It is not intended to act upon the bowels, but simply to exert the alterative powers of mercury. Besides mercury

it contains the sulphide of antimony, and is made into a mass with guaiacum gum and castor oil. The dose is from three to ten grains.

*Pneumonia*, or Inflammation of the Lungs, is, doubtless, a disease due to the invasion of a specific germ. Of course this germ cannot develop its virulence in a healthy subject ; the health of the individual must be, first of all, so far deteriorated as to permit its making a soil for its development and propagation within the lungs. Pneumonia is invariably accompanied by very high fever, rapid breathing, lividity of the countenance, and a hacking cough, which, in a day or two, is accompanied by an expectoration most viscid in character, and having more or less of a rusty-coloured appearance. On percussion, the chest over the seat of the disease is invariably dull, and if the stethoscope be placed over the dull area, a fine crepitation or crackling sound will be audible ; this, as time goes on, becomes more and more of a crackling and afterwards of a bubbling nature. The great point in the treatment of pneumonia is to keep the temperature low, and this can best be accomplished by giving phenacetine in 8 grain doses for an adult every four hours, while considerable benefit may also be derived by the application of a fly-blister over the seat of inflammation. At the same time, the vital powers must be thoroughly sustained by an abundance of nutritious food, and careful attention should be given to the bowels. The patient should be kept in a well-ventilated room, the air of which may be kept warm if the cough is very persistent. The old method of treating pneumonia by opium and calomel is, however, not to be ignored, as the calomel would appear to act powerfully as an antiseptic and alterative, while the opium soothes the pain which almost invariably accompanies pneumonia, in consequence of the pleura in the neighbourhood being also in a state of inflammatory action.

*Podophyllin* is a resin possessing a greenish brown or

sometimes an altogether brown colour. It is procured from the American May apple, which is a well-known fruit in the United States, and is generally called by its more popular name of mandrake. The dose of podophyllin should never be large, and its action is always to be obtained by giving it in small doses at frequent intervals.  $\frac{1}{20}$  of a grain given three or four times a day will have a much more beneficial effect than  $\frac{1}{4}$  or even  $\frac{1}{2}$  a grain given at once. It should always be combined with some other purgative such as colocynth, and an anodyne such as henbane, together with a carminative like powdered capsicum, which will prevent the griping, and not at all interfere with its beneficial effect. Podophyllin is largely used in bilious derangement, as it exercises a considerable stimulating effect upon the liver and its secretions. It at one time possessed such a popularity that it was deemed far superior to all the preparations of mercury, and it was thought that it might supersede this drug altogether in the treatment of liver complaints. This, however, has not proved to be the case, as mercury still holds its own, and probably will do so in the future, as being one of the most useful remedies that are known in the treatment of bilious disorders. The tincture of podophyllin can be administered in very minute doses and at repeated intervals, and is therefore a very useful preparation, but the commonest form of administering this drug is that of pill, of which the following may be considered one of the most useful compounds:—Podophyllin  $\frac{1}{4}$  grain, powdered capsicum 1 grain, colocynth and henbane pill 4 grains. This to be mixed and made into a pill, which may be taken at bed-time when the liver is sluggish.

*Poison.*—It is difficult to define this word, as so many substances are deleterious in their effects, and therefore literally poisonous without being actually destructive to life. Those articles which usually are recognised by the public as poisons are strychnine, arsenic, prussic acid,

corrosive sublimate, oxalic acid, opium and its alkaloids, belladonna and its alkaloids, aconite and its alkaloids, etc. Then, again, there are what are called specific poisons, which develop disease within the system and often result fatally, such as those of the various fevers, cholera, dysentery, diphtheria, etc. The great point to attend to when poison such as arsenic has been taken into the stomach is to endeavour to produce vomiting as rapidly as possible, or if the stomach pump is at hand to empty the organ by this means and afterwards wash it thoroughly out with warm water, while suitable antidotes should be given with a view to counteracting the effects of the poison upon the system at large. If an emetic is the only convenient means of emptying the stomach, then mustard and warm water mixed together is one that is always at hand, or sometimes vomiting may be quickly effected by tickling the throat with a feather or pushing the finger down the throat with a view of causing sickness. But the great point in all such cases is at once to send for professional aid, at the same time stating the circumstances which are exciting suspicion, so that proper appliances may be brought without loss of time. There are certain poisons which have well-known antidotes, a list of which is given in Dr. Garrod's work on *Materia Medica* :—

<i>POISONS.</i>	<i>ANTIDOTES.</i>
ACIDS, . . . . .	{ Magnesia, Chalk, and diluted solutions of Alkaline Carbonates.
ALKALIES, . . . . .	Vinegar and Water, Oil.
ALKALOIDS, . . . . .	Finely divided Animal Charcoal.
ANTIMONY, . . . . .	{ Decoction of Bark and other preparations, containing Tannin in solution.
ARSENIC, . . . . .	{ None; but Charcoal may be given, or Mag- nesia and Hydrated Peroxide of Iron.
CHLORINE, . . . . .	Ammonia, Magnesia.
CYANIDES, OR PRUSSIC ACID, .	Solutions of Chlorine, mixed Oxides of Iron.
IODINE, . . . . .	Starch.
LEAD SALTS, . . . . .	Sulphate of Soda or Magnesia.
MERCURIAL SALTS,	White of Egg.
OPIUM, . . . . .	Animal Charcoal, which absorbs Morphia.
NITRATE OF SILVER, .	Common Salts and other Chlorides.
SULPHATE OF ZINC,	Carbonate of Soda in dilute solution.

*Polypus* is the term applied to tumours which are attached to the tissue from which they have grown, by a pedicle. They vary in size considerably according to their position, those of the nose being small, while those of the womb sometimes attain enormous dimensions. When they appear in the nares they frequently give rise to considerable distress in consequence of their interfering with the breathing. They are, however, as a rule, very easily removed by being laid hold of with a pair of strong forceps and then twisted, and thus disconnected from the mucous membrane. Polypi, however, may appear in the ear, the rectum, and in the larynx, when they generally partake very much of the nature of the surface from which the pedicle takes its origin. When they occur in the womb they invariably in the first instance develop within the tissue of the womb itself, and then by virtue of the muscular action which is exercised in consequence of the presence of the tumour, become expelled either into the cavity of the womb itself or outside into the peritoneal cavity. Some idea of the size of these tumours, which have become converted into polypi, may be given when the author can state that in his own experience he has removed them as large as the head of a newly-born infant, and on one occasion from the abdominal cavity he removed as many as eight of these tumours by abdominal section, the largest of which would be the size of an ordinary cocoa-nut, while the smaller varied from the dimensions of a hen's egg to that of an orange. From the nature of these growths it is quite impossible that they can be treated except by a professional man.

*Pomegranate* is a native of Asia and Africa, and is largely cultivated in tropical and sub-tropical climates. The flowers, the rind of the fruit, and the bark of the root of the fruit itself, have all been used in medicine on account of the astringent properties they possess; but the most popular use of this tree is as a remedy for tape-worm,

in which disease the root of the bark in the form of infusion is employed. There are, however, much more efficient means of dealing with tape-worm than by pomegranate root, therefore it has fallen into disuse within the last few years. When it is desirable to give it, two ounces of the fresh bark of the root should be steeped in two pints of water for twelve hours and then boiled down to one pint. A wine-glassful of this decoction may be given every two hours till the whole of it is taken. Laxatives should afterwards be administered, the best of which is castor oil. Naphthaline and chloroform water, however, have proved very much more efficacious, and as they are non-poisonous and easily administered they are much to be preferred. See *Tape-worm*.

*Poppy*, the well-known plant so common in our gardens, and popular because of the variety of colour which the flowers possess. Its principal uses medicinally are for the production of opium, and the capsules, or seed vessels, of the plant are dried and afterwards ground and employed as poultices where soothing effects are desired. It is a remarkable fact that although the seed vessel possesses such narcotic properties the seeds themselves are entirely free from them; indeed, in some parts of Asia they are crushed or ground and made into cakes.

*Pork*, or the flesh of the Pig, is by some considered most indigestible, while by others it is esteemed as being easy of digestion. A great many experiments have been made endeavouring to show the digestibility of various meats, some of which have shown that pork is most easy of digestion, while others have appeared to prove the very opposite. These effects would appear to have been the result of experiments made upon animals which had been fed in different ways, as there can be no doubt that a pig especially, being an omnivorous animal, will vary very much in its constitution and in the composition of its flesh by the kind of food which it lives upon. It is as foul a living

animal as can possibly be found, if opportunities are given it, and hence the fact of its being pronounced unclean by the Jews, who were quite conscious of this fact, and no doubt poisoning would readily occur if the flesh of swine living upon offal and putrefying substances were partaken of. Pigs are peculiarly liable to be invaded by a parasite called *trichina spiralis*, and when the flesh of animals thus affected is eaten without being properly cooked the disease is readily given to man. Uncooked pork also is very liable to contain the eggs of the tape-worm, and hence to give rise to this disease in the human being.

*Porrigo* is a disease of the scalp developing crusts in which sero-purulent discharges accumulate. It is somewhat like eczema in its appearance, and is essentially a disease of the epithelial covering of the scalp. The treatment of this disagreeable affection consists, in the first place, of washing the scalp thoroughly with carbolic soap, and after drying, an ointment composed of one part of red oxide of mercury ointment, with three parts of ordinary pomade, with which two drachms of quinine have been thoroughly mixed, should be applied night and morning.

*Porter* is the well-known beverage brewed from malt which has been highly kilned. It contains much more saccharine matter than ale, this being in the form of extract of malt, it is therefore more nutritious and equally stimulating. It is said by some to produce biliousness, and this, doubtless, is the case if it is partaken of for too long a period ; but as it possesses more laxative properties than ale, it is advantageous on this account. Many substances have been employed in the adulteration of porter, but as these are so easy of detection, and are illegal, they are seldom now used by brewers of any standing. Amongst the articles which were wont to be thus employed are, the bitter woods, such as quassia, gentian, wormwood, *nux vomica*, etc., which were intended to take the place of hops and impart the bitter taste. *Cocculus indicus* has

also been used with a view of communicating intoxicating properties, while treacle, burnt sugar, etc., have been used to impart the colouring matter. In certain conditions of the body, especially when convalescence is in progress, a judicious use of porter aids the system very much in its efforts to regain strength, and as a daily beverage for those undergoing considerable mental and bodily fatigue it is to be commended when circumstances are favourable. Many medical men have great faith in the virtues of porter as a help to nursing mothers. This practice, however, I think, should be discouraged, as there is nothing better for this purpose than a simple and nourishing diet.

*Port Wine* belongs to the class of wines which might be described as the strong wines. It has been put down as containing 22 per cent. of alcohol, very few ports, however, contain any such quantity as this. The colour of port wine is due to the colouring matter which exists in the skin of the grape, and is pressed out along with a considerable amount of tannin and extractive matter, which is absent in the light coloured wines. If a port wine contains more spirit than 15 per cent., we may rest assured that the excess has been added in the form of pure alcohol, and is not produced in the natural fermentation of the grape. There is probably no more wholesome wine than port if the quality is good; it possesses both tonic, nutritious, and stimulating properties combined, and in weak conditions of the bodily health it is to be commended before any other alcoholic beverage. It is said to be productive of gout, but this is only when it is partaken of in excessively large quantities, and probably the wine is also of such a heavy nature as to interfere very much with the functions of the stomach. My experience is that the best stimulant a gouty individual can partake of is a good crusted old port. In cases where the bodily strength has been very much reduced by disease, such as diphtheria, the addition of port wine to the dietary will be found invaluable; while, if the

health is run down by over-work, at which time boils and carbuncles are liable to develop, port wine will be found to be most serviceable in restoring the flagging energies of the body.

*Position.* The position of any part suffering from weakness, injury, or illness, is of the greatest importance, and requires to be taken into serious consideration in accident and in disease. In the case of a fracture, for instance, occurring beyond the reach of medical assistance, it is of the greatest importance to the patient that the injured part should be kept in such a position as to prevent the ends of the bones penetrating the skin, as, otherwise, what might have remained a simple fracture is turned into a compound one, and therefore the peril of the limb very much increased. Again, if a joint is affected by disease, the position must be studied, so that if stiffening is inevitable, the limb may be in such a position as to render it most useful in the circumstances. Then, again, if a patient is sick or faint the recumbent posture will be found most acceptable to him, and enable him to recover more rapidly than if the erect posture was maintained. In bleeding at the nose position is also of great importance, as, naturally, the bleeding will be less liable to continue if the erect posture is maintained, and further assistance will be given by keeping the hands elevated above the head. Then, in dropsical conditions, of the lower limbs especially, position is of the utmost importance, as, if the legs are allowed to droop as in the ordinary position of sitting, the swelling will, from this mechanical arrangement, be more liable to increase; whereas, if the limbs are elevated and kept in the horizontal position, the flow of blood will be materially assisted and the swelling thereby reduced. Then, again, with regard to fatigue either of the mind or body, it has been said that a rest in bed for 24 hours is equal to a change of air extending over some days; and this, doubtless, is the case, and can be accounted for by the fact that the whole

of the tissues of the body, together with the mind, are in perfect repose and have an opportunity of regaining their wasted energies. There can be no doubt whatever that sleeping in a chair, instead of being beneficial, is frequently prejudicial, whereas, nothing is more refreshing and invigorating than sleeping in the recumbent posture. When the bodily strength is so far exhausted as to prevent the individual from changing his position in bed, it is essential that this should be done for him by the nurse in attendance, otherwise, his condition becomes very much complicated by the development of bed sores, which are due to long continued pressure upon one part whereby the circulation of the part is interfered with, and therefore it loses its vitality. Not only is shifting the posture of the patient beneficial in this respect, but it conduces very much to his comfort otherwise by the relief which his muscles obtain in having the position of the body altered.

*Potash* is the oxide of the metal potassium, and is very widely distributed throughout all nature. It is found in the soil, in all living bodies, both animal and vegetable. It is very largely employed in medicine, the most generally used salts of this metal being caustic potash, carbonate and bi-carbonate, cream of tartar, or bi-tartrate of potash, acetate of potash, saltpetre or nitrate of potash, chlorate of potash, iodide of potassium, bromide of potassium, citrate of potash, and permanganate of potash. *See* special articles. Caustic potash in solution is employed as an ant-acid in certain diseases, especially in those affecting the urine. Bi-carbonate of potash, also an ant-acid, is had recourse to in similar circumstances. Caustic potash is also used as a caustic for the destruction of morbid growths, and has been found very useful in the treatment of carbuncle, by which means the recovery of the part is said to be very much hastened. Caustic potash requires, however, to be handled with the greatest of care, as its destructive effects upon the skin are very pronounced. Acetate of potash is a compound, as its

name implies, of acetic acid and potash. It is a popular remedy as a diuretic, and may be given in from 30 to 40 grain doses in water, three or four times a day. Chlorate of potash is largely used in the treatment of diseases of the mouth and throat, and is specially useful in the treatment of aphtha and stomatitis. Bi-tartrate of potash, or cream of tartar, is a popular remedy, and also possesses diuretic properties. Nitrate of potash, or saltpetre, though sometimes given as a diuretic, is not such a safe medicine as the bi-tartrate. It has been frequently employed in the treatment of sore throat. The iodide and bromide of potassium are the two most popular salts of this metal, and are invaluable in the treatment of diseases of a constitutional character ; the iodide of potassium being employed largely in the treatment of syphilis, rheumatism, enlarged glands, and swollen joints. It has also been recommended in the treatment of diphtheria, but other remedies are much to be preferred. When taken in excess it is liable to give rise to very copious exudation from the eyes and nostrils, and seems to have a peculiar effect upon the mucous membranes generally. This effect can be somewhat modified by combining it with carbonate of ammonia. Bromide of potassium, by its action upon the arteries of the brain, causing them to contract, produces a soothing and soporific effect. It is a useful remedy in the treatment of epilepsy, and doubtless acts by its effects upon the blood-vessels supplying the sensory portion of the brain, from the congestion of which the convulsions seem to be due. Permanganate of potash is the substance which gives the disinfecting properties to Condy's fluid. It is a well-known and deservedly popular disinfecting agent. *See* Permanganate of Potash.

*Potato*, the well-known tuber, is one of the most popular vegetables we possess, and is, without exception, the most wholesome and nutritious, if properly cooked. It, however, is very much influenced in its character by the soil upon which it is grown, and also by the weather which it

experiences in the process of ripening. Potatoes, to be of the best quality, should always be cultivated upon a light, sandy loam, away from trees or anything which interferes with the free ventilation of the plant, as it depends entirely upon bright sunshine and dry weather, together with a light soil for its healthy development. The potato contains a very large proportion of water, with a considerable amount of starchy matter, and a small amount of nitrogenous or flesh-forming matter. When the stomach is weak it is liable to give rise to acidity, from the fact that it is a common failing for people to neglect the ordinary laws which tend to promote digestion ; because the potato is a soft and easily masticated article of diet it is generally passed through the mouth with unceremonious haste, whereas, it is entirely upon the saliva that the digestion of the potato depends. It is therefore necessary that anyone who partakes of this vegetable to any extent, should take particular care in the process of its mastication to be assured that it is complete. Dyspeptics should be very wary indeed upon this point, and take care to secure the proper cooking, as well as the proper mastication of this valuable tuber. Potatoes should never be eaten when they are waxy or sodden, and there is no reason at all why they ever should be if proper care is taken in the cooking. It is a curious fact that the potato belongs to a class of plants which contains many poisons, and it is beyond dispute that even the potato itself is poisonous in some of its parts, viz., the leaves and the potato apple or fruit of the potato. From the composition of the potato it will be easily understood that starch can be extracted from it in very large quantities, and there is no doubt that many of the starches which are employed, both in the laundry and as articles of diet, such as tapioca, are prepared from the potato.

*Poultice* is an application which is intended to act as an emollient, to afford moisture, and produce a soothing effect

upon the part to which it is applied. The great point in making a poultice is to see that it is very soft, and very warm when it is applied, as upon cooling it becomes stiffer, therefore less emollient in its effects. Poultices are made of several different articles, amongst which may be mentioned—bran, linseed meal, oatmeal, marsh mallow, and charcoal, which, of course, is always mixed with some other substance, such as linseed meal and hemlock for soothing purposes. Poultices now-a-days, however, are not nearly so much in vogue as they were some years ago, as it is now an undisputed fact that hot fomentations and compresses wrung out of hot water and afterwards covered with waterproof answer the purpose equally well; moreover, these applications can always be either saturated or sprinkled over with an anodyne substance, such as opium, henbane, belladonna, etc., or made stimulating by having turpentine, chloroform, or ammonia sprinkled upon them. They can also be made antiseptic by wringing them out of a solution of carbolic acid or Condy's fluid. The old idea of poultices drawing a wound is just about as stupid as it can possibly be; all that poultices can do in suppurations or inflammatory affections of a part is, by virtue of the heat which they impart, to cause contraction of the blood-vessels, and therefore soothe the pain by lessening the congestion and at the same time promoting a softening of the tissues, which, assisting the efforts of nature, permits the pus to find an exit.

*Powder.* Numerous powders exist in the British Pharmacopœia, such as, compound cinnamon powder, which is employed as an aromatic; compound powder of ipecacuanha, commonly called Dover's powder, which is taken in 10-grain doses when there are feverish symptoms and a free action of the skin is desired; compound aromatic powder, which is a mixture of chalks, cinnamon, and opium, and is used in 20-grain doses for an adult in cases of diarrhoea. Compound jalap powder, which

contains jalap and cream of tartar, is employed in cases of dropsy or some disordered condition of the kidneys, and is administered in 40 to 60-grain doses before breakfast, with a view of producing a free evacuation of the bowels, and thus relieving the kidneys by removing a considerable portion of the watery part of the blood. A great many other powders, of course, are employed in medical practice, but these are generally made up from physicians' prescriptions, and therefore cannot be noticed here.

*Practice* is said to make perfect, but unfortunately this does not hold good with the practice of medicine, as the physician and surgeon are always learning, no matter how much practice they may have seen. The great point is to take advantage of the experience which is daily being acquired, and at the same time endeavour to reap the fruits of the experience of others. Unfortunately, sufficient advantage is not always taken by the practitioner on these points; and therefore many men, who otherwise might be good practitioners, are very mediocre indeed. It behoves the public, therefore, to be particular in the selection of their medical attendant.

*Practitioner, General*, is the term applied to those members of the medical profession who do not confine their attention to any one special disease, but who practise in every branch, both of medicine and surgery, some of them going so far as to combine with their professional duties that of the business of chemist and druggist.

*Precipitate* is that which is thrown down in the process of some chemical change which has been produced upon substances which have been previously held in solution. Precipitation is the method adopted by chemists to procure drugs in a pure and unadulterated condition. Among the substances which are precipitated are—red precipitate, white precipitate, which are preparations of mercury; precipitated sulphur, or the milk of sulphur, which is the purest

form that sulphur can be obtained in ; precipitated chalk, etc.

*Precocity* can hardly be called untimely maturity, but is an over-rapid development of the mental faculties, which frequently is most pernicious in its after effects. Children who show a tendency to precocity should invariably be kept in check and not allowed to display their talents, as usually conceit is developed in them, and therefore a desire to demonstrate their superior powers. A precocious development of the nervous system rarely produces in the man a greater amount of intelligence than that possessed by his compeers whose mental powers have come more slowly to maturity; indeed, the reverse is frequently the case. Then it must always be borne in mind that the most important thing to attend to in the development of children is their physical health, and this usually suffers when undue attention is paid to the forcing of the mental powers.

*Precordial Region* is that portion of the chest wall which covers the heart anteriorly.

*Predisposition*, from a medical point of view, means a tendency to a certain disease. This is generally due to some hereditary taint, such as is found in tuberculosis, rheumatism, gout, etc.

*Pregnancy* is that condition of the female which exists between the period of conception and delivery. The first symptoms which are observed when a woman becomes pregnant are the cessation of the menses; a sensation of fulness in the breasts, with a deepening of the colour of the areola round the nipples; sometimes morning sickness, which may, in certain circumstances, prove very painful and distressing. The appetite may become quite altered, in so far that articles of diet which previously had not been cared for by the individual may now be ardently wished for; indeed, the whole habits of the woman may now be completely altered, and frequently her health improves very much—that is to say, if it has been in an unsatisfac-

tory condition before. As time advances and indications of fulness make their appearance in the lower part of the abdomen, and about four-and-a-half months after conception has taken place, a curious movement is experienced within the womb, which indicates that the organ has risen out of the pelvis into the abdominal cavity, and that the movements of the child can be felt by the mother. This is termed quickening, although in reality the foetus has been alive ever since conception took place. Sometimes this feeling of quickening gives rise to nervous symptoms more or less distressing, the most common of which is faintness and sickness, but these soon pass away, and the patient's health does not suffer. As the womb enlarges numerous symptoms may be developed consequent upon the pressure which it exerts upon the blood-vessels and nerves which ramify through the pelvis, and not unfrequently swelling of the limbs and constipation, accompanied by haemorrhoids, result from the former, while neuralgic pain in the legs may develop in consequence of the latter. Many women suffer from toothache and neuralgic affections of the head during pregnancy; but these are generally due to some disordered condition of the digestion and enfeeblement of the health at large, and require to be treated more constitutionally than locally. The bladder, in consequence of pressure, may also be irritable and unable to retain its normal quantity of urine; but this, of course, is only a mechanical affection, although it may be aggravated by a tendency to acidity of the stomach, which not unfrequently attends the pregnant condition. Heartburn, in consequence of this, frequently exists in the latter months of pregnancy. This, however, can be usually removed by the administration of 10 grains of bismuth about half-an-hour before food three times a day. The latter stage of pregnancy will always be assisted by the judicious administration of small doses of strychnine, which will, by its tonic effect upon the involuntary muscular fibres, give power to the walls of the womb,

and thus enable it to accomplish delivery with greater ease and rapidity than it might otherwise be able to do. It is essential during the epoch of pregnancy that the bowels be carefully attended to, that food which tends to create flatulence (*see Dyspepsia*) should be avoided, and that plenty of outdoor exercise be taken. In consequence of the stretching of the skin of the abdomen during pregnancy there is frequently considerable pain, tenderness, or itching. This may [be relieved by rubbing the irritated part with vaseline and lanoline in equal parts. The breasts should also receive careful attention during pregnancy, and with a view to harden the nipples they should be bathed regularly with some astringent liquid, such as a concentrated decoction of tea, oak bark, or the glycerine of tannin. The normal duration of pregnancy in the human female is 40 weeks, or 280 days, although the child may, in rare instances, survive after 6½ months, while 7 and 8 months' children are not unfrequently able to survive and develop into healthy infants. In law a child is said to be premature if it is born before the thirty-eighth week of pregnancy, while those which are not born till after the fortieth week are said to be protracted cases. See "Woman in Health and Sickness."

*Premature Birth* may be said to have occurred if it takes place after quickening and before the thirty-eighth week is completed, but before quickening has taken place, if the womb discharges its contents, abortion is then said to have occurred.

*Prescription.* A medical prescription is not only made up of a written description of the medicines which the physician intends his patient to take, but combines the instructions how they are to be taken, and also the dietary or other regulations which are to attend its administration. When a physician writes a prescription it is essential that he does not combine medicines which will not act harmoniously with each other, or counteract the effect of each other, or be incompatible with each other. It has been

often stated by those whose knowledge is limited on the subject, that a combination of medicines in a prescription is an error, whereas frequently the symptoms of the disease present point to one or two and sometimes more effects that it is desirable to produce upon the individual ; e.g., in indigestion it is frequently necessary to combine pepsine, which is intended to assist the digestion, along with bismuth, which is intended to act as a sedative to the stomach, and at the same time an ant-acid and strychnine, the object of which is to give tone to the weakened organ. Again, it is frequently desirable to combine a purgative along with a diuretic. Then, in cases of colic, it is often necessary to give a mixture containing both an anodyne, a carminative, and a stimulant, so that no hard and fast rule can be laid down with reference to the prescription which is best adapted for the complaint under treatment. Many people think that writing a prescription is very simple, and that they may make use of it in any way they please. They seem to forget that to prescribe properly means a considerable amount of prolonged study; and it is extremely unfair for a patient who has derived benefit from a medical man to hand about his prescription to his friends, ignoring all the while the fact that a medical practitioner makes his living by treating the complaint which the individual who has been benefited suffered from. If a person derives benefit from a prescription which he has received, it is only fair and grateful on his part that, instead of making use of this prescription for other purposes than that for which it was intended, he should recommend his friend who is suffering to consult the same medical man who had benefited him so much. It is essential, to procure the benefits which the prescription is intended to impart, that this should be dispensed by a thoroughly competent and conscientious chemist and druggist. A great deal of disappointment and ill feeling on the part of the patient frequently results

from the fact that the prescription has been improperly dispensed, and many a time in the author's own experience has he come across instances where it was not the fault of the prescription that benefit was not derived, but because inferior medicines had been employed in making it up.

*Preserved Provisions* should be partaken of with very great caution, as frequently these become contaminated, either by the admission of air or by the chemical action of the article upon the tin in which it is packed. Many instances of accident are on record where not only has life been endangered but actually lost in consequence of the chemical changes which have occurred in the food under these circumstances. This applies specially to preserved salmon, lobster, oysters, and vegetables. Another mischief frequently arises from the fact that vegetables are coloured by means of metallic substances, which of course act prejudicially upon the system. It is well known that many articles of food can be preserved for an indefinite period by keeping them at a low temperature, and by this means large quantities of butcher meat, poultry, fish, etc., are kept fresh during long voyages, and imported into this country in a wholesome condition. The importation of dead meat from America, Australia, and New Zealand, is now a trade of considerable importance, and as a consequence has reduced very materially the prices of these commodities. It is a curious fact, however, that if the meat be kept at too low a temperature, when it is thawed, decomposition takes place very rapidly; whereas, if it is kept simply about the freezing point, it will keep for a considerable time after the frost has been expelled from it. The convenience of having preserved meats is one of growing importance, as food can thus be taken in a fresh state which a few years ago it was quite impossible to obtain; thus the comforts of sailors going long voyages, and of travellers who penetrate countries where food is often difficult to procure, are materially increased, and not only is comfort ensured, but their health

at the same time, as the partaking of fresh food instead of salt meats prevents scurvy, which at one time was the bane of sailors, but is now almost never met with. In the case of vegetables which contain about 80 per cent. of water, the process of drying is peculiarly applicable by this method. Various descriptions of vegetables and fruits can be preserved in a dry though shrivelled condition, and it has been stated that a cubic yard of this dry and pressed vegetable contains as much as 16,000 rations, and that they are both more wholesome, of better flavour, and cheaper than vegetables which are preserved in tins. Numerous methods of retaining the freshness of food have been adopted, such as salting it, preserving it in hermetically sealed tins, bottles, and other vessels, or covering it with an antiseptic substance, such as boracic acid, which, by the way, is frequently employed by dairymen for the preservation of milk. It must always be remembered that when salt is employed for the preservation of butcher meat a number of important substances are extracted from the flesh which are essential to its nutrition and digestibility, the most important of which are the digestive salts. Moreover, it is well known that health cannot be for any lengthened period maintained if salted meat is partaken of in any quantity, inasmuch as it cannot perfectly replace by its constituents those parts of the body which have been exhausted in the ordinary wear and tear of life; therefore that method of preservation which is adopted by simply excluding all atmospheric air and germs of decomposition is much to be preferred, as thereby none of the constituents of the meat are removed. This mode of preserving food is yearly assuming greater proportions and importance, so that now meat preserved in this way is universally made use of, and has tended very much to cheapen such articles of consumpt. A great variety of soups are also preserved in tins, and are remarkable for their delicacy of flavour. Then again, meat juice, which now is largely employed in the sick-room, is not

only a great benefit to patients suffering from debilitating diseases, but also a most convenient form of administering nourishment in small bulk. The most important of these meat essences are Valentine's, Wyeth's, Dunayer, and Brand's.

*Pressure* acts in a variety of manners upon the living body. If it is continued for an undue period on any one part it is liable to give rise to ulceration of that part, and this is exemplified very markedly in the formation of bed-sores, which arise in certain diseases when the patient is unable to change his position. It is therefore necessary that precautions should be taken against these in every case where great prostration exists. Then again pressure is sometimes employed as a curative agent with a view of promoting absorption of redundant tissue. We know how valuable pressure is after child-birth, this being employed by means of a bandage pinned tightly round the abdomen. We know also the effect of pressure in altering the shape of any portion of the animal economy. This is exemplified in certain savages who employ pressure to flatten the skulls of their children, which by them is supposed to be a mark of beauty. Chinese ladies, too, employ this method in keeping the size of their feet diminutive, which also is considered a type of beauty. When pressure is employed in redundant growths, or thickening of any particular part of the body, it would seem that the benefit in such circumstances is derived from the fact that the blood supply of these parts is modified to a considerable degree by the pressure which is brought to bear; hence it is employed in certain tumours, especially those affecting the surface of the body. Pressure also is valuable in preventing loss of blood from an injured artery or vein, and indeed this was the only method that was adopted in olden times for arresting haemorrhage; now, however, this is more efficiently accomplished by picking up the bleeding vessels with forceps adapted to this purpose, and tying the artery.

with a silk ligature. The continued pressure of the atmosphere upon the surface of living bodies exercises a very considerable influence on health, therefore people of a plethoric temperament should invariably live at as low an altitude as possible, as rupture of the vessels, both internal and external, is much more liable to take place if they remove to a high altitude, in consequence of the partial removal of atmospheric pressure.

*Prickly Heat* is a peculiar affection of the skin which is apt to attack people going to a hot climate. It seems to be closely allied to nettle-rash in its nature, and is usually associated with acid dyspepsia and a constipated state of the bowels. The sensations that arise are—pricking, itching, tingling, and stinging, accompanied by an eruption of bright red pimples about the size of a pin's head, which spread over the chest, neck, arms, thigh, and occasionally on the forehead. It, like nettle-rash, is very much aggravated by warmth, be this due either to exposure, to the heat of a fire, to warm clothing, or exercise. It is also aggravated by partaking of stimulants, spiced food, or hot drinks. The treatment consists in keeping the patient cool and giving food of easy digestion, and assisting the digestion by means of alkalies combined with pepsine, and at the same time keeping the bowels open by means of well-diluted saline purgatives.

*Prognosis* is that opinion which is given by a medical man respecting the progress, or probable issue of disease. A great many circumstances require to be taken into account before a prognosis can be properly given—*e.g.*, the age of the patient, his circumstances, his hereditary or acquired tendencies, his surroundings, etc.; thus—*e.g.*, in a person who has a tendency to tubercular disease, his whole family history must be taken into account, together with his prospects of being able to take advantage of certain climates, the condition of his digestive organs, and his ability to take certain remedies. Many men make their

reputation by invariably giving a bad prognosis. This, needless to say, is cruel to a degree; he, however, when he condescends to such means of gaining reputation, places himself in the position of a trickster. He knows well that his prognosis places him in a comparatively safe position, as, if the patient dies, he has proved to be a true prophet, whereas, if he recovers, he receives all the more *éclat*. If a favourable prognosis cannot be given conscientiously, it is a great mistake to make the patient fully aware of this at first, as the shock which he must necessarily sustain will have a very deleterious effect upon his condition, and what little chance there was of recovery may, by this means, be altogether destroyed. It is frequently a most painful as well as a difficult task for a medical attendant to state exactly his views of a certain case, at the same time it is incumbent upon him to do this in as honest and straightforward a manner as possible to the friends of the patient, as, thereby, they may be prepared for what is to come.

*Prolapsus*, or Falling Down of any internal organ or portion of the body, is invariably due to a lack of support dependent upon either injury to the surrounding parts or weakness from disease of the part itself. The term is usually confined to prolapse of the womb, of the vaginal walls, and of the bowel. When the womb is prolapsed, this is almost invariably due to rupture having occurred in the perineum during child-birth. It may, however, originate in the fact that the womb has become diseased, and in consequence of this unduly heavy, and falls by virtue of its increased weight, the ligaments and perineum being insufficient to retain it in its proper position. When the walls of the vagina are prolapsed, this is almost invariably due to rupture of the perineum, or to the fact that the womb draws the wall of the vagina down with it when it is prolapsed, in consequence of its being enlarged by disease. Prolapse of the bowel frequently occurs

in young children, but can, as a rule, be easily replaced by a little judicious pressure. It also occurs frequently in old people, and is generally preceded by long continued irritation. It is almost invariably immediately brought about by severe straining at stool, and this tendency may be developed by the presence of worms or the irritation of a stone in the bladder. When it occurs in children it should be attended to at once, and the part smeared with an astringent ointment, such as gall ointment or hamamalis ointment; gentle but firm pressure should then be brought to bear upon the protruded portion of the bowel, or the finger may be greased with one of these ointments and introduced into the anus, when it will generally carry the protruded bowel with it. If, however, the prolapse has been neglected for some time it becomes strangulated by the contraction of the sphincter muscle of the anus, and may become very much congested and swollen under these circumstances. It is then sometimes a matter of considerable difficulty to get it replaced. With a view to relieve the congestion and cause the parts to contract, hot applications should be applied for some time, after which pressure upon the protruding bowel will usually reduce the prolapse. Hot fomentations, in these circumstances, are much to be preferred to cold applications, although cold acts very much in the same manner as heat does in causing a diminution of the swelling. When the swelling has been reduced, a suppository containing either hamamalis or tannin should be introduced two or three times a day, with a view of causing a contraction of the flabby portion of the bowel. Not unfrequently the protrusion of the bowel depends upon the presence of internal piles, when, of course, surgical interference will be necessary for their removal. In old people whose bowels have a tendency to come down, a bandage with a pad upon it should be worn to give support. This may be attached at the back and in the front to another

bandage which is fixed round the body. In prolapse of the womb, various forms of pessaries may be employed, but if this is due, as it so frequently is, to rupture of the perineum, the only efficient remedy will be to have this repaired by surgical operation. See "Woman in Health and Sickness."

*Prostate Gland* is that gland which is situated at the base of the bladder. It is liable to become diseased in persons who are up in years, when enlargement takes place, which may cause considerable difficulty in passing water.

*Proteine* is the name which is employed to denote certain constituents of animal and vegetable food. These are synonymous with the albumenates or nitrogenous substances. They comprise albumen, fibrin, and casein, each of which is found both in the animal and vegetable kingdoms. These substances named syntonin, globulin, and kreatin, however, belong exclusively to the animal kingdom. When in their natural state they are soluble, but they are apt to become coagulated by heat, and also become solid when combined with tannin or mineral acids.

*Protrusion* of various portions of the body may take place either through natural or artificial passages, such as prolapse of the womb, prolapse of the bowel, hernia, etc.

*Proud Flesh* is in reality a redundancy of healthy granulations, and is apt to occur in sores during the process of healing. This redundancy of growth should always be checked by the gentle application of a caustic to the parts, as it invariably retards healing, in consequence of the epithelial cells being unable to advance over the elevated surface.

*Proximate Cause* is a term employed in medicine to indicate the actual cause of death or symptoms of a disease, although not actually indicated by the circumstances—*e.g.*, a blow on the stomach may cause death

by paralysing the heart's action, or a severe fright may act in a similar way. Then, again, dropsy may be a prominent symptom of a disease, though in itself it arises from an organic change having taken place in one or other of the internal organs; so that if it affects the chest, and thus interferes with the breathing, it may be actually the cause of death, although in reality it is only a proximate cause.

*Prurigo* is an affection of the skin attended with troublesome itching, and is recognised by the fact of its being made up of numerous spots resembling heat spots.

*Pruritus* is itching of the skin, and is generally applied to that troublesome affection which affects the anus and female genitals. It is due to an irritability of the nerves supplying the part, this being probably induced by the secretions of the skin or mucous membrane in the neighbourhood. An excellent remedy for this affection is one part of nitrate of mercury ointment combined with seven parts of vaseline, a little of which should be applied once or twice a day to the irritable surface.

*Prussic Acid*, technically known as Hydrocyanic Acid, exists in a great many vegetable substances, such as the kernels of all stone fruit—*e.g.*, the peach, plum, cherry, etc. It is also contained in the leaf of the laurel. It is composed of three elementary substances—viz., nitrogen, hydrogen, and carbon. It has a most powerful, peculiar, pungent odour, and if inhaled in any quantity, is apt to cause sudden and serious depression of the heart's action. Prussic acid, which is employed in medicine and for commercial purposes, is not prepared from vegetable substances, but is procured by the decomposition of cyanide of potassium. It is a most valuable medicine when prescribed by the physician, its action being both sedative and anodyne to the nervous system. In sickness and nervous irritability, it proves of immense service. Its poisonous properties, however, necessitate that it be em-

ployed with the greatest caution. Its action as a poison is very rapid, as it acts immediately upon the heart, producing paralysis of that organ. When a small overdose has been taken, the symptoms produced are—a feeling of weight and pain in the head, confusion of the mental faculties, nausea, and a rapid pulse. The antidotes which are usually employed in poisoning from this substance are—cold water dashed freely over the body, and the spine especially; stimulants, such as ammonia, alcohol, and digitalis, are also called for; while, if a medical man is at hand, the subcutaneous injection of strychnine may prove of great service. Chlorine, however, in the form of vapour seems to be the best antidote that is known for this poison, or thirty drops of the solution of chlorinated lime or chlorinated soda may be given in water by the mouth, the vapour at the same time being inhaled. Artificial respiration should also be employed, and electricity if it is at hand.

*Psoas*, or belonging to the loins. The psoas muscles are those which connect the loins with the spine. An abscess in this neighbourhood, called psoas abscess, sometimes occurs in delicate children.

*Psora* is another name for the itch or scabies.

*Psoriasis* is a disease of the skin generally associated with rheumatism or gout. Its appearance is that of an elevated patch of scales. It generally attacks the neighbourhood of the joints, and is hereditary in its nature. The best application for this troublesome affection is a solution of one part of chrysophanic acid in collodion, a little of which should be painted on and allowed to dry every night; while, internally, one twenty-fifth of a grain of the red iodide of mercury should be taken thrice daily in the form of a pill.

*Ptyalism*, or Salivation, is produced by numerous substances, such as mercury, iodide of potassium, etc.

*Puberty* is that important epoch in the human life when

the sexual organs become fully developed. In English law the time of puberty is considered in the male to be at fourteen years of age, and in the female at sixteen, but these periods are not actually correct, so far as the physiological development of the individual is concerned, as the age of puberty varies very much in different individuals. Great care should be taken in the management of an individual attaining the age of puberty, as it is a critical period of life, when latent disease is apt to develop its activity, especially is this the case with regard to tuberculosis. Menstruation in girls is the first indication that puberty is attained, while in boys it is generally indicated by the appearance of hair upon the face and genitals.

*Public Health* is one of the most important benefits that has been conferred upon the population of this country, through the intervention of the State by means of the Acts which have been passed with reference to this subject. Not only has the longevity of the people been increased, but freedom from certain diseases been very much promoted. The Public Health Act of 1875 conferred large powers upon the Board appointed, that enabled it to deal with subjects relating to health which had previously been imperfectly attended to. The country was divided into rural and urban districts, supervised by local boards termed sanitary authorities, who appointed medical officers and inspectors of nuisances. This Act gave power to these boards to pass certain rules and bye-laws which enabled them to control the building of workhouses, infirmaries, contagious diseases hospitals, the planning of streets and houses, the construction of sewers, and the arrangements for water supply, vaccination, and the prevention of the spread of disease. To this Act additional powers have recently been added, by which every medical man is bound to notify infectious disease when it arises in his practice.

*Puddings* are articles of daily use in almost every family, the principal ingredients being some farinaceous substance

together with eggs and milk. Puddings are specially applicable to the sick-room, as they are easily partaken of, and as a rule digest readily, while at the same time they are highly nutritious. The best way to make a pudding is to cook the farinaceous substances along with the milk, and when it is perfectly hot to break the eggs into it and beat them well up together. In this way the egg is quite sufficiently cooked, and adds lightness as well as a nourishing agent to the pudding.

*Puerperal* is the term applied to affections which are incident to the child-bed, such as puerperal fever, puerperal mania, etc.

*Puerperal Fever* is in every instance due to some negligence on the part of the medical attendant, and is invariably the result of blood poisoning, either communicated by him or as a result of decomposition taking place within the womb or its neighbourhood. It was at one time deemed an incurable disease, but with the advance of medical science it can now be treated with almost certain success, if active measures are employed to remove the decomposing matter, and at the same time disinfect the parts that have been contaminated.

*Puerperal Mania* is generally associated with some hereditary taint of insanity in the family.

*Pulmonary* is the term applied to everything connected with the lungs, such as pulmonary consumption, gangrene, cancer, etc.

*Pulse* is that sensation which is imparted by the waves of blood passing through the arteries, and indicates each beat of the heart, the condition of the circulation, and the strength of the individual. A regular, steady pulse, which is not easily obliterated by pressure, indicates a good condition of the general health, whereas if the pulse beats intermits, this fact usually points to some faulty action of the heart. Rapidity of the pulse may indicate either a high state of fever or a condition of nervous excitement.

When fever is present and the pulse is rapid it is generally full and round and easily compressed. The average pulse in a healthy man in the prime of life may be estimated as beating 72 times in a minute, but though this is the average there are many deviations, and even in the same individual the pulse varies greatly according to the time of day it is taken, and the condition of his nervous system at the time. A quick pulse is never an indication of health, although some people appear to be fairly well with the pulse ranging from 80 to 90, in others the pulse may be exceedingly slow, and may not exceed 40 beats in the minute, and yet apparently fair health is enjoyed.

The following is a table drawn up by M. Quetelet :—

AGE.	Average of Pulsations per minute.
Birth,	136
5 years,	88
10-15,	78
15-20,	69
25-30,	71
30-50,	70

The most convenient part of the body for feeling the pulse is the wrist, where the radial artery lies upon the bone and is very superficial. In affections of the brain, causing great depression, the pulse is usually slow, whereas in peritonitis it is very rapid and thready in character. In recent years a valuable instrument named the sphygmograph has been introduced, which registers the exact movements of the heart by the tracings which are obtained from it. By this means a great deal of information has been obtained with regard to the circulation.

*Pump, Stomach*, is an instrument which can only be properly used by a medical man, and should always be at hand in the event of an emergency arising. It is specially useful in cases of poisoning, and is also largely employed in the treatment of certain stomach complaints attended by great distention of the organ, which is usually associated with a catarrhal condition of its mucous membrane. By

means of this instrument the stomach can be washed out at regular intervals, and this operation is said to be attended with considerable benefit in dyspepsia attended by the symptoms which have been mentioned.

*Pumps* employed for drawing water should not be made of lead, as this is very apt to produce lead poisoning by the water acting as a solvent upon the metal. Great care should be taken that the pump is not placed in proximity to a sewer or cesspool, as many instances of disease are known to have arisen from this source. Since pump wells have been disused in large cities and towns many diseases, which before were most ravaging in their effects, have almost entirely disappeared, amongst these may be classed cholera and typhoid fever.

*Pumuline* is the essential oil obtained from the tops of a certain species of pine which grows at considerable altitudes in the north of Europe. Its value consists in the beneficial effects which it conveys, either in the form of inhalation or when combined with certain sweet substances, and is partaken of in the form of jujube.

*Punctured Wounds* are those which are produced by a sharp instrument.

*Pupil* of the eye is the transparent portion of the cornea, and is surrounded by the iris or colouring matter of the eye. It permits light to pass directly through the lens to the retina. Opaque spots upon this important portion of the eye-ball should be attended to with the greatest promptitude, as their existence may not only disturb, but even destroy the vision altogether.

*Purgatives* are those medicinal substances which excite and accelerate the movements of the alimentary canal, and increase the discharges from it. Purgatives are divided into simple laxatives and drastic purgatives. A laxative effect may be produced by certain articles of diet, such as brown bread, porridge, uncooked foods, or even by drinking cold water before breakfast. These are generally described

as dietetic laxatives, and act, more or less, by the mechanical irritation which they produce upon the mucous lining of the bowel. Injections also act as laxatives by washing out the bowel, and are most useful in the treatment of a sluggish condition of the colon. Their more general use would add very much to the comfort of those troubled with constipation or an inefficient action of the colon. Amongst the more gentle laxatives may be included—olive oil, almond oil, extract of malt, phosphate of soda, hyposulphite of soda, cream of tartar, prunes, sulphur, and tamarinds. Those having a more energetic effect are—aloes, cascara sagrada, podophyllin, Epsom salts, Glauber salts, jalap, calomel, grey powder, blue pill, rhubarb, senna, and magnesia, when there is an acid condition of the stomach ; while those having a more drastic effect are substances such as colocynth, scammony, gamboge, etc. The great point to observe in taking purgatives is to ascertain what is the direct cause of constipation. It may be due to errors of diet, want of exercise, indigestion, or habitual neglect of the calls of nature, when of course the lower bowel becomes distended and semi-paralysed, in consequence of the accumulations which have existed so long within its canal, because the parts have got stretched and unable to act by unaided efforts. If the laws of nature were properly attended to purgatives would be rarely called for, but when they are necessary it is important that they should be employed without hesitation, as many evil consequences arise from constipation, and predisposition to disease is induced by accumulations within the intestine, while the absorption of fœtid fluids naturally arises therefrom.

*Purging Flax*, although not included in the Pharmacopœia, deserves mention, in consequence of its being employed in some parts of the country as a domestic remedy. It is an excellent cathartic, producing neither sickness nor pain in its action. A tea-spoonful of the dried powdered leaves made into an infusion acts as a

brisk purgative, or quarter of an ounce of the fresh leaves may be employed for a similar purpose. The plant attains a height of six or eight inches, has smooth, narrow leaves placed opposite each other on the stem, and blossoms about the end of June. The flowers are small and white.

*Purpura* derives its name from the colour of the spots which are characteristic of the disease. The discolouration of the skin is due to the escape of blood immediately under the surface of the skin, in consequence of an unhealthy condition of the capillary vessels, and is generally associated with an attenuated condition of the blood. Although the external manifestation of the disease is only apparent to the casual observer, it will always be found to be associated with a diseased condition of the blood-vessels of the mucous membranes, as well as of the integument, and purpura is nearly always associated with a tendency to haemorrhage from the mucous surfaces, especially that of the nose. The peculiar purple-coloured spots which appear, most frequently upon the leg, are due very much to the same condition that results from a bruise, and disappear very much in the same manner as the discolouration resulting from direct injury does, the effused blood being gradually absorbed, and undergoing change and colour from purple to yellow in the process. Although purpura may occur in the plethoric, it is usually a disease of great debility, and requires, in these circumstances, to be treated by giving abundance of easily digested and nourishing food, attending carefully to the condition of the bowels, and administering iron in the form of Blaud's pills or capsules after food. With a view to checking the haemorrhage, turpentine in ten to fifteen-drop doses may be given three or four times a day, but the most efficacious remedy when bleeding takes place from the veins, as it does in this disease, is hazeline, or the extract of the witch hazel, from which hazeline is distilled. The dose of hazeline in such circumstances would be thirty

drops every three or four hours, and of the liquid extract of hamamalis ten drops every two or three hours. Purpura is a disease, however, which should invariably be placed under medical supervision.

*Purulent* is the term applied to surfaces or cavities where pus is being formed, when the discharge from such surfaces is said to be purulent.

*Pus* is the discharge which is found in abscesses, upon granulating surfaces, open wounds, and ulcers. It varies very much in character, but in every instance it is the result of decomposition. At one time pus was thought to be essential to the act of healing ; now, however, it is always considered an unnecessary evil, as its presence can always be avoided by the judicious and careful employment of antiseptics, except of course in the formation of abscesses which are beyond the control of the surgeon until they have actually formed ; yet, by prompt interference, these abscesses can be frequently aborted and prevented from extending in their dimensions. The formation of pus is due to the action of certain minute organisms which prey upon the secretion of the membrane, granulations, or any part which has been weakened either by disease or injury, and thus rendered an easy prey to these microbes.

*Pustules* are slight elevations on the skin which contain pus. They are invariably due to decomposition taking place in serum which has been effused in limited areas on the surface of the skin. They generally appear as clear vesicles, and these undergo a purulent change. The formation of pus in such circumstances, if the eruption is extensive, as in some cases of small-pox, is always attended by very high fever ; hence the great danger which attends the development of pus in this disease, and which gives rise to the secondary fever of small-pox.

*Pustule (Malignant)* is due to the introduction of the poison of anthrax or charbon into the skin. It is a most

painful, and at one time was considered a fatal disease ; now, however, by the introduction subcutaneously of anti-septics round the neighbourhood of the pustule, the disease can frequently be destroyed, in consequence of the parasite being killed. In olden times it was thought necessary to avert a fatal issue by excising the pustule along with a considerable portion of healthy skin, or else to destroy the diseased area by the use of powerful caustics. There can be little doubt that this disease may be communicated by means of flies, which have been feeding on putrid matter, alighting on the skin and depositing the poison there ; so that if irritation commences after the bite of one of these insects, the greatest watchfulness should be paid to its immediate effects. Recently, marked progress has been made in the successful treatment of this horrible disease. It has been ascertained that by injecting anti-septics underneath the skin surrounding the pustule the microbes which are productive of the disease can be destroyed, and thus the malignancy averted and a successful result obtained.

*Putrefaction* consists in the action of living organisms upon animal and vegetable tissue. It is nature's provision for keeping in revolution the constant cycle of change, as by this means tissues are reduced to their ultimate atoms, and are thus enabled to become reorganised in future generations. At one time this was thought by eminent chemists to be due solely to chemical change ; now, however, science has enabled us to comprehend the process in its minutest details. Without putrefaction or decomposition the world would soon come to a standstill ; but by its aid, or rather by the aid of the microscopic germs which produce it, dead tissue is enabled to enter into living matter and provide it with nourishment, and so the cycles go on, the same materials producing life and ending in death as time rolls on. Putrefaction, however, frequently gives rise to disease, and this is specially

exemplified in those maladies which are due to decomposition of sewage matter, such as typhoid fever, diphtheria, etc. It is not, however, due to the fact that the gases emanating from decomposing matter have any power in actually producing disease, but they have such an effect upon the vital powers of the individual as to depreciate his health and render him susceptible, while at the same time the gases are soluble in water, and in consequence of their being held in solution living organisms are enabled to develop within the fluid, by which means they reach the stomach of people imbibing impure water. As soon as they reach this destination, if the health of the individual has previously been reduced by inhaling foetid gases, his system becomes an easy prey to such diseases. Putrefaction, again, may occur within the living tissue without actually producing fatal consequences, or consequences which are likely to prove fatal—*e.g.*, in the stomach, if digestion is not active, fermentation of the food may take place, and distension by flatus, together with the generation of acid, give rise to very distressing symptoms. Fermentation, therefore, is synonymous with putrefaction, and this is specially exemplified in the case of the transition of saccharine material into alcohol, which is produced by the action of the yeast plant upon a liquid containing glucose in solution. Decomposition, or putrefaction, can always be prevented by means of antiseptics, the action of these substances being entirely due to their destructive effects upon the micro-organisms which produce the change in the tissues. Anything, in short, which deprives these organisms of life and prevents their re-appearance would prevent putrefaction. It is in consequence of this knowledge that we are able to preserve meats for an indefinite period in a fresh condition, the process depending upon the fact that all the atmospheric air is expelled by means of heat from the vessels in which the meats are contained, and when the contents of these

vessels are at a considerable heat they are hermetically sealed, and thus germs are prevented from entering. Freezing meat also, as is well known, has the effect of preserving it, in consequence of the cold being sufficient either to destroy the microbes altogether or restrain them from entering into active life. Both heat and cold, therefore, may be said to be antiseptics ; then, as we all know, numerous chemical agents, such as carbolic acid, boracic acid, salicylic acid, bi-chloride of mercury, iodoform, aristol, etc., all have a destructive effect upon these minute organisms, and therefore prevent decomposition occurring in substances with which they are brought in contact. By this means open wounds, which otherwise could only have healed by the process of suppuration, are now permitted and enabled to unite by first intention. Were it not for antiseptics it would have been quite impossible to have performed many operations which can now be undertaken without danger, but which at one time were deemed quite impracticable.

*Pyæmia* literally means pus in the blood, and is always attended with very high fever, which may abate for a period, but always comes on again with renewed vigour. The fever is due to the blood being poisoned from absorption of foetid matter from any given point. The suppuration occurs in the blood itself, but this invariably gives rise to coagulation of the blood in its immediate neighbourhood within the vessel. The pus germs, however, invade this clot and reduce it to pus, when a fresh exacerbation of the fever immediately ensues. This succession of feverish attacks comes on for a limited period, but sooner or later the patient succumbs to the general septicæmia which always results if the disease has not been checked. In olden times, before antiseptics were thoroughly understood, pyæmia, or septicæmia, was a very common occurrence in the practice of surgery ; now, however, thanks to cleanliness and antiseptics, and the laws which the employment of

these substances have naturally developed, this disease is rarely or never met with, and if it does show itself it can always be traced to negligence on the part of the medical man or the nurses in attendance upon the patient. It commences with rigors and high temperature, followed by profuse perspirations, denoting great prostration of the individual. A succession of these symptoms, together with their temporary abeyance, is quite characteristic of the disease.

*Pylorus* is the outlet of the stomach. It is liable to disease, and is frequently the seat of cancer.

*Pyrosis*, or Water-brash, is always due to indigestion, and is frequently associated with heart-burn. It is a most disagreeable symptom, and is recognised by eructations of a disagreeable watery fluid welling up into the mouth. In many people certain articles of diet, such as oatmeal, in any form, broths, soups, stewed meat, and boiled meat, give rise to this form of dyspepsia. The best medicinal agent in the circumstances is bismuth, 10 grains of which may be taken, half-an-hour before food, three times a day.

*Quack*, Quackery, and Quack Medicines. The term is derived from the fact that the figure of a duck was the ancient Egyptian sign for a doctor of medicine. A quack is an unprincipled man pretending to a knowledge which he does not possess, and by various means imposing upon the credulity of the unsuspecting. He pretends to cure all diseases, and by his impudent pretensions succeeds frequently in making the ignorant believe that he is possessed of wonderful curative powers, and that his medicines, which frequently contain nothing medicinal within them, are perfect panaceas. The quack, however, has only in view one object, and that is to fill his own pockets at the expense of the public; and the means which he adopts, especially in the treatment of the young who by indiscretion have got into trouble, are frequently far from honourable. He preys upon their fears, and threatens them with exposure, so that

he may extract every penny he can from them. Everyone should beware of quacks and quackery, as in no instance will they receive proper treatment such as their case deserves, nor the consideration which should always be extended by an honest medical man to his patient. Quack medicines are the mixtures which these individuals administer; but other medicines, which are properly termed "patent medicines," go under the general name of quack medicines also, and although some of them are useless, yet many possess considerable virtues and can be relied upon as useful remedies in certain diseases. The great mistake that the proprietors of these medicines make is, that they attribute too many virtues to them, holding them up as universal remedies, whereas they are only capable of benefiting a limited number of symptoms. Cockle's pills provide a most efficient purgative, while Ekyn's pills are an excellent remedy for neuralgia. Ertell's liniment is an excellent remedy in the chest affections of children, and Elliman's embrocation has proved very useful in the treatment of sprains, etc. These are examples of some of the more useful patent remedies, which are popularly called, although they are not, "quack medicines."

*Quarantine* is derived from the Italian word indicating forty, as forty days is the usual period that people and goods coming from infected places require to be isolated, with a view of ascertaining whether they have the disease about them, and also with a view of disinfecting the goods that may be set aside in the building for this purpose. Quarantine is a necessity in circumstances where infection is ascertained to be conveyable by individuals and goods coming from infected places. It is a wise provision that the local government board has the power of taking strong measures with regard to the quarantine of vessels coming into healthy ports, and it is also necessary that individuals who suffer from infectious diseases should not be permitted to mingle in society until a sufficient period has elapsed

since their recovery from these diseases. Especially is this the case with regard to scarlet fever, small-pox, measles, etc.

*Quartan* is a term applied to ague, the paroxysms of which return about every three days.

*Quassia* is a bitter wood obtained from a tree grown in Jamaica and the West India Islands. It is a pure bitter, and when infused is a valuable tonic. It has a destructive effect upon all insects; hence the wood is not invaded by insect life. Its infusion is employed for the destruction of flies, which insects have a particular liking for bitter substances, and especially for quassia, which, however, acts upon them as a poison. The infusion of quassia is also used in the treatment of thread-worms, an infusion of  $\frac{1}{2}$  of an ounce in a pint of boiling water, to which a table-spoonful of salt has been added, being recommended as an injection when thread-worms are present. The injections should be kept up for at least a fortnight, when there will be some probability of the parasite being eradicated. The infusion of quassia has also been employed in certain forms of constipation, which are accompanied by diarrhoea of a small tract of the bowel. The infusion in these circumstances acts as a cleansing agent to that portion of the bowel containing the hardened faeces, while it also acts as a tonic to the weak portion of the colon which harbours the hardened faeces.

*Quickening* is a term applied to that period of pregnancy when the womb rises out of the pelvis into the abdomen, and the movements of the child are first felt within the womb. It usually occurs four and a half months after impregnation has taken place, or about half time between impregnation and delivery. See "Woman in Health and Sickness."

*Quick-Lime* is the oxide of lime in a dry and fresh condition. It has a strong affinity for water, from which circumstance it possesses caustic effects. It is a capital

disinfectant, and is largely employed mixed with water to keep stables, byres, privies, closes, courts, etc., in a sweet condition.

*Quick-Silver*, or Mercury, is a metal which remains fluid at ordinary temperatures. As is well known, it is largely employed in the arts, in science, and in medicine. See Mercury.

*Quinine* is the principal alkaloid which is obtained from cinchona bark, commonly called "Peruvian bark." It possesses most excellent properties as an antidote for ague, as a curative agent in neuralgia, as an anti-pyretic in certain forms of fever, and as a tonic in debility. It also has valuable medicinal properties when applied locally, as in eczema, psoriasis, pityriasis, and other skin affections. The dose of quinine varies very much according to circumstances—in ague it is sometimes given up to 25 grains, but, as a rule, one or two grains every hour or two is quite sufficient to produce the desired medicinal effects of this substance. When quinine is taken for any length of time it gives rise to peculiar singing or rushing noises within the ear, which may actually develop into complete deafness for the time being. This is called cinchonism. Quinine also in many instances acts as an irritant to the stomach; this, however, is only the case when chronic congestion of the mucous membrane exists.

*Quinsy*, or Tonsilitis which has gone on to suppuration, is one of the most painful affections that can possibly attack the throat. It is closely associated with rheumatism, and, as a rule, only develops in rheumatic subjects. The author has found it frequently to precede an attack of rheumatic fever. When the inflammation of quinsy has proceeded to a certain extent, it is liable to give rise to an abscess within the tonsil, which is accompanied by considerable fever and excruciating pain, especially when any attempt is being made to swallow. Quinsy rarely attacks an individual who is in good health, but, as a

rule, is indicative of a lowered state of the general system which is accompanied by constipation, a highly acid condition of the urine, and a rheumatic condition of the blood. When tonsilitis appears it is well to suspect that quinsy may be in the background, and with a view to prevent its occurrence the following mixture should always be in readiness, and should be taken every two hours when the least indication of inflammation of the tonsils is present:—Chlorate of potash and salicine, of each  $2\frac{1}{2}$  drachms; guaiacum mixture, 6 ounces—mix, and take a dessert-spoonful every two hours.

*Quotidian* is the term applied to agues whose paroxysms occur every 24 hours. *See* Ague.

*Rabies* and *Hydrophobia* are synonymous terms. *See* Hydrophobia.

*Radius* is the bone of the fore-arm upon which the hand is articulated at the wrist-joint, and is so called because of its power of revolving round the ulna.

*Raisin* is the dried grape in which all the nourishing substances of the fruit have been retained. They are largely employed in cookery, and some of the finer qualities are used as dessert. They are highly nutritious on account of the saccharine matter which they contain, and are also useful as aids to the daily evacuation of the bowels, because of the intolerance which the bowels show for the skin of the raisin, which passes through the stomach in an undigested state, and by its irritating properties excites the bowel to action. By this means children who have partaken of raisins or currants to an undue extent are frequently troubled with diarrhoea, which will not cease until the offending article has been cleared from the bowel by means of castor oil or some other like aperient medicine.

*Ranula*, or Little Frog, is the term applied to a little cystic tumour which is situated under the tongue, and contains a viscid, glairy fluid of a mucous character. It is easily removed by a pair of scissors. Its name is derived

from the old system of quackery which was practised by the ancients, who pretended that they removed a frog from the tumour when it was incised.

*Ranunculus*, or Butter-cup, variety of plants are chiefly remarkable for the acridity of the extract which is drawn from their leaves. They have an emetic action upon the stomach, and this is due very much to the irritation which is produced upon the organ. They should not, however, be taken into the stomach at all, as they possess more or less poisonous properties.

*Rash* is that term which is applied to the discolouration of the skin, or eruptions which occur in certain diseases, such as scarlet fever, measles, nettle-rash, erythema, etc. Small-pox and chicken-pox, on the other hand, develop vesicles which are termed the eruption of these diseases.

*Reaction* is the term applied to the redness of the skin which follows immersion in cold water, when a delightful glow is experienced over the whole body. It is also applied to the recovery which takes place in the human frame when the depressing effects of disease have been overcome by the vital energies, and are passing off; thus, after a shock from an injury which produces a pallid and collapsed appearance of the countenance, when reaction sets in the blood-vessels of the skin become filled, and a glow establishes itself all over the system. Reaction may be aided very much in these circumstances by applying warmth to the surface of the body, and administering stimulants either by the bowel or mouth. When reaction is once established all danger from shock comes to an end, and it is of the utmost importance in such circumstances to endeavour to bring this about. The term "reaction" has recently been adopted to indicate the condition of the body which results after the subcutaneous injection of certain serums, with the view of counteracting infectious disorders, such as tuberculosis, diphtheria, hydrophobia, tetanus, etc.

*Recreation* is one of the greatest pleasures that man

can enjoy, and should be indulged in on every available opportunity. Nothing seems to restore the vital energies to the same extent after exhaustion from toil or anxiety as pleasurable enjoyment, and pleasure can be purchased so cheaply nowadays that it should not be beyond the range of any one who requires it. Those who are constantly surrounded by business cares and worries, and whose lives are a constant round of monotony, should particularly resort to recreation at frequent intervals, as thereby not only is their general health maintained, but their enjoyment of life rendered very much greater. Numerous forms of recreation are at hand; those which exercise one by the occupation which they give to the mind as well as to the body should be chosen, if these are not accompanied by danger. The recreations most to be recommended are those which bring into use those muscles which in the regular routine of business are more or less in abeyance, and which at the same time occupy the mind and draw it into a different groove from that in which it runs from day to day. The pleasantest forms of recreation are those which demand a certain amount of skill in their performance, such as riding, fishing, shooting, swimming, cricket, golf, lawn tennis, etc. There are other forms of recreation, however, which, although considerable skill is required in their indulgence, yet are accompanied by dangers which should be avoided. The most prominent amongst these are football and fox-hunting.

*Rectum* derives its name from the fact of its being straight, and is the lower extremity of the large bowel, having its exit at the anus. It is the lowermost portion of the colon, and is continuous with the sigmoid flexure. It is the rectum which becomes loaded in constipation, and when this is the case an undefined feeling of discomfort invariably exists in the individual. This condition of the rectum frequently gives rise to the development of piles, in consequence of the interference which it occasions in

the circulation in the veins. Sometimes in newly-born children the anus is not apparent, although the rectum in all probability exists. It is therefore necessary to make an artificial anus, and great care should be exercised in performing this operation, so that the rectum may be entered and the normal channel thus established. The rectum is subject to many diseases, such as cancer, ulcer, fistula, fissure, stricture, etc. It may also be the seat of obstruction, this being due to an accumulation of hardened fæces within its canal. By means of the rectum many important diseases which exist within the pelvis can be diagnosed, as by introducing the finger into this canal nearly the whole of the pelvis can be explored. Few of the diseases of the rectum are beyond the reach of operative surgery, and as they can be readily detected they may as a rule be easily removed. In many instances the rectum is made the medium of introducing medicines and food in certain conditions of the body. Amongst these medicines, which are usually prescribed by suppository (which are small conical-shaped articles composed of cocoa, butter, and olive oil, in which is mixed the medicine to be used) are—morphia, atropine, hamamalis, tannin, opium, etc., while specially prepared beef extracts are made into suppositories with a view of sustaining the patient when he is unable to take sufficient nourishment by the mouth without producing unpleasant symptoms. Meat suppositories, therefore, are largely employed both in private and hospital practice. When obstruction from constipation occurs in the rectum the best method of relieving this is to employ an enema composed of a table-spoonful of salt dissolved in a pint of warm water. If ulceration exists this will always be accompanied by severe pain. It may be relieved, however, by dilating the bowel and separating any adhesions that may have taken place between the mucous membranes and the muscular portion of the gut, while a mild caustic may be applied with a view to stimu-

lating the ulcer to heal. If fissures exist these may be cut, and if fistula is present this must be operated upon in the ordinary way for fistulous openings. As is well known, internal piles are frequently the cause of great suffering, and these invariably have their origin within the rectum.  
*See article on Piles.*

*Refrigerants* are those medicines which are now commonly called "antipyretics." The old style of prescribing refrigerants is now almost obsolete, as remedies such as phenacetine can be so much more depended upon than the old method of reducing the temperature by the action of diaphoretics. Yet the application of ice to the surface often proves most beneficial, while cold water affusion is not unfrequently employed in certain diseases where the temperature is running high.

*Regimen* is one of the most important adjuncts to medicine in the treatment of every disease. In dyspepsia especially nothing conduces so much to the welfare of the patient as strict attention to regimen. In such circumstances the diet must be carefully considered—articles of certain descriptions being prohibited, while those of a more digestible character should constitute the food of the patient. Regimen, however, goes very much beyond the region of dietetics. The daily routine of the patient requires to be modified in such a way as shall be most beneficial to him in his endeavour to obtain restoration to health. *See Indigestion, Gymnastics, Dietetics, Hygiene, etc.*

*Relapsing Fever*, or Famine Fever, was at one time very common in Ireland, especially after the potato failures. It, however, would appear to be a disease which is entirely dependent for its first existence upon the privations which the inhabitants have undergone, together with exposure to vicissitudes of temperature which naturally co-exist with an impoverished condition of a community. The temperature of the body frequently attains a considerable elevation—that is, when the fever is running high—but in a day or

two the fever seems to disappear entirely, only, however, to recur after a limited number of hours with as much virulence as before, and each attack produces most depressing effects upon the constitution of the patient. The treatment consists in supplying an abundance of nourishment and counteracting the germs which seem to be productive of the disease by means of quinine, salicine, salol, phenacetine, antipyrin, and other antipyretics.

*Relaxation* is one of the most important laws that an individual can observe whose health is not robust. It is a well-known fact that a day in bed conduces largely to the restoration of enfeebled health, and will often prove as beneficial as a change to the country and absolute rest from the usual round of business activity. *See Recreation, Pleasure.*

*Remittent Fever* is now almost entirely a thing of the past. In nine cases out of ten it is due to the presence of hardened faeces within the lower bowel, and since the important fact has been realised that such a condition of the lower bowel gives rise to fever which comes and goes, this form of fever has been almost blotted out. At any rate, it is not too much to say that it should never occur in the practice of a physician whose knowledge of disease is brought up to the standard of the present day. In remittent fever, therefore, the proper method to adopt is to relieve the bowels as quickly as possible by means of the enema.

*Renal* is applied to all affections or conditions appertaining to the kidneys, such as renal calculus, renal disease, renal circulation, etc.

*Resolution* is the term which is applied to disease which leaves the patient and his tissues organically as perfect as before its attack.

*Respiration* is the term which is applied to the whole process of breathing, from the time the air commences to enter the lungs, to that in which it is completely expelled. The respiration is frequently an important guide

to the physician in his endeavours to diagnose diseases, especially those affecting the chest and heart, although any illness which disturbs the circulation or nervous condition of the patient invariably has more or less a direct effect upon the breathing. Hence, if a person breathes with difficulty, even without exertion, this is generally caused by some affection of the lungs, either directly or indirectly. If, on some slight motion, the breathing is increased in rapidity and rendered more difficult, we may rest satisfied that either the lungs or the heart are the seat of serious disease. Yet, such a condition may be produced by causes quite external to both the lungs and heart, such as distension of the stomach from dyspepsia, etc. The number of respirations per minute in an adult, when he is in good health, should be from sixteen to twenty; when they are increased beyond this the fact is generally explained by disease being present in one form or another, either within the chest itself or in the abdomen.

*Respirators* are instruments manufactured for the purpose of filtering the air before it enters the mouth and nose. These may be fitted in such a manner as to enable anti-septic remedies to be constantly applied in a volatile form, and at one time great faith was placed in creosote and carbolic acid being inhaled for hours at a time by those suffering from consumptive disease. The great benefit, however, which the wearing of respirators confers is, that they prevent the inhalation of minute particles which are held in suspension in the atmosphere, and which are very injurious to those suffering from bronchitis, asthma, and consumptive disease. They are also useful in yielding a certain amount of warmth to the atmosphere before it is inspired. In obstinate cough many substances may be introduced into the respirator which will have a soothing effect, such as chloroform, creosote, menthol, belladonna, conium, henbane, etc.

*Rest* is essential, not only to animals but to plants

likewise. Every animal, therefore, requires a certain amount of rest to enable it to perform its daily duties, and it is essential that this rest should be accompanied by sleep to a great extent. *Refer to Sleep.*

*Resuscitation*, or the Restoration of sensibility to persons who are apparently moribund, is treated in various articles, such as drowning, hanging, poisoning, asphyxia, fainting, etc.

*Rete Mucosum* is the internal layer of the outer skin. It is this portion of the skin which is exposed in the process of blistering, and from which the serum is effused after the application of fly blisters, hot water, or substances which are exceedingly cold.

*Retina* is the expanded membrane composed of nerve tissue which is derived from the optic nerve, and is spread over the inner surface of the eye-ball. It is this membrane which receives the impressions of external objects, and conveys these impressions by means of the optic nerve to the brain. When viewed through the ophthalmoscope it has a beautiful reddish golden tint when free from disease. When this portion of the organ of vision becomes inactive, the disease called amaurosis is said to exist. The functions of the retina may also become disorganised by a dropsical condition occurring behind the membrane and detaching it from its matrix, or a blood-vessel may rupture within the membrane and thus destroy the vision.

*Rheumatism* may be said to be composed of two varieties—viz., the acute and the chronic. The direct cause of rheumatism is an acid condition of the blood, the acid contained being uric. It is invariably associated with constipation and dyspepsia of the acid type. Certain individuals are more prone to this disease than others; but the author's conviction is, that even an individual who has a hereditary tendency to this disease may escape it altogether if he pay sufficient attention to the daily evacuation of the bowels. There is hardly a tissue of

the body that may not be affected by rheumatism. The acute variety, however, invariably attacks the joints and serous membranes, such as the pericardium, pleura, peritoneum, as well as those of the joints. It is characterised by very high fever, a thickly-furred tongue, and excruciating pain on the least movement of the parts affected. It is not unfrequently preceded by an attack of tonsilitis, or quinsy, which may proceed to suppuration. This only goes to prove that these diseases are of a rheumatic nature, and owe their origin to the same poison which develops the disease in other parts of the body. Acute rheumatism, however, nowadays, has been robbed very much of its painful symptoms and duration. This is due to the discovery that constipation always has a great deal to do with the development and continuance of the disease, and also that salicine has a powerful influence over it, this influence being probably due entirely to the fact that salicine is an antiseptic, and has the power of destroying the virus which induces the chemical change within the blood. Chronic rheumatism, although not so excessively painful, and not productive of the feverish symptoms which the acute variety gives rise to, is, notwithstanding, a disease entailing much suffering and distress. Both of these varieties may be very much relieved by applying to the parts agents that have a soothing effect upon the nerves surrounding the affected areas. Amongst these agents may be mentioned—carbolic acid in solution, menthol, chloroform, belladonna, opium, etc. In every instance, however, the chief object of those who are in attendance upon the patient should be, to ensure the daily and free evacuation of the bowels, to regulate the diet so as to promote digestion to its fullest extent, and to keep the patient clothed in flannel. Salicine may be given according to age, in from 5 to 20-grain doses every two hours, in the acute form of the disease, and it will also be found beneficial in the chronic variety. If

the disease attacks the throat and quinsy is threatening, the following mixture will generally prove efficacious in arresting its progress:—Salicine and chlorate of potash, of each  $2\frac{1}{2}$  drachms; mixture of guaiacum, 6 ounces—to be mixed, and a dessert-spoonful taken every two hours. It should always be remembered that rheumatism may attack portions of the human body which may appear to be unlikely places for it to locate itself, such as the eye, the mucous membranes, the ovaries, etc. People affected in this manner are generally exceedingly susceptible to the influences of cold, and from this fact alone a rheumatic condition of the system may be recognised. Thickening of the joints is frequently the result of a rheumatic state of the system, and what is often designated as rheumatic gout is neither more or less than chronic rheumatism. At the same time we must not overlook the fact that gout is very closely related to rheumatism, and is simply a phase of this disease. A chronic congested condition of the throat is frequently of rheumatic origin, and it will be found that people suffering from this painful affection will procure great relief by taking salicine, or the salicine and guaiacum mixture which is mentioned above. It is a well-known fact that individuals of a rheumatic temperament are very sensitive to changes of temperature and climate; therefore, a dry, equable climate is to be preferred for those who suffer from this disease. Many medicinal springs have proved most useful in the treatment of this disease, and in consequence of their curative properties have become historical as health resorts. Amongst the most famous are those of Aix-les-Bains on the continent, Bath and Buxton in this country.

*Rhubarb* as a medicine is obtained from the root of the ordinary rhubarb. The climate, however, in which it grows seems to exert a considerable influence upon its medicinal properties, Turkey rhubarb being the best in the market. The great portion of the rhubarb, however, employed in

medicine is grown in India and Chinese Tartary. It is a medicine of very great value, combining not only purgative and antibilious, but tonic properties as well. When of good quality its odour, though feeble, is anything but agreeable, and its colour should be of a bright yellow. There are few medicines which are more extensively employed than rhubarb, and few possess greater value or are safer remedies. Its peculiar characteristics are those of a mild but effectual aperient. It does not gripe ; it is a tonic ; and after its action it is a slight astringent. It is taken largely in the form of Gregory's mixture, where its tonic effects combined with the carminative effects of the ginger contained, and the ant-acid and purgative effects of the magnesia, render it most useful in cases of constipation associated with acidity or indigestion in any form. It also enters largely into the compound rhubarb pill, and is also prescribed as the tincture, and for children there is a sweet essence prepared which is not only easy to take, but very efficient in its action. There is no doubt that rhubarb has a slight stimulating effect upon the action of the liver ; hence, it is frequently combined with grey powder in the treatment of biliary disorders. The ordinary dose for an adult is from 20 to 30 grains, while for a child one year old 5 grains may be given with perfect safety. When rhubarb is mixed with sherry wine or brandy it is deprived to a large extent of its nauseous taste, or a few drops of eau de Cologne, chloric ether, or spirits of nitre, may be added with a view to take away the characteristic taste of the drug.

*Rhubarb, Garden,* is too well known to require much description in a work of this kind. It, however, although a wholesome enough vegetable, is not altogether safe in certain disorders of the urinary organs, and many instances are on record where it has given rise to considerable distress when the condition of the urine was not healthy. It possesses very slight aperient effects when taken as a vegetable ; hence it is largely employed where there is a

tendency to constipation. It should always be remembered that garden rhubarb contains oxalic acid, and so much is this recognised medico-legally that if poisoning has been due to oxalic acid, and if it can be proved that the victim has eaten rhubarb within a short period prior to his death, the conviction of the suspected person may be quashed on this account.

*Ribs* are the bones which form the arch of the thorax in front, which has its foundation upon the vertebral column, and encloses the organs of the chest and those of the upper part of the abdomen. They are twelve in number on each side. The upper seven are directly connected with the breast bone, or "sternum," by means of cartilaginous attachments. These are called the "true" ribs. The remaining five have no direct connection with anything but the vertebral column, and they are named the "floating" or "false" ribs. The cartilages connecting the true ribs with the breast bone, together with the mobility of the ribs themselves, enable the chest to expand and contract in the process of respiration. The ribs are liable to fracture from direct violence, and this frequently gives rise to very alarming symptoms, especially if the rib perforates the lungs, when haemorrhage may take place from the lung substance, and emphysema result in the tissues external to the chest, in consequence of the air finding exit through the ruptured lung into the cellular tissue of the body. (See Emphysema.) Fracture of the rib is always accompanied by severe pain in the immediate neighbourhood of the injury. It, however, is a lesion which generally can be repaired without much trouble.

*Rice* is that well-known grain which probably yields more nourishment to the human race than any other cereal. It contains a considerable amount of nutrition as well as heat-sustaining properties. It forms a large proportion of the food of Asiatics, and is also largely used in this country as a farinaceous article of diet. Like other

cereals it is for the most part made up of starch, about 80 per cent. of this substance entering into its composition. It comes to this country in a dry state, and when immersed in water it absorbs this fluid to such an extent as to increase its bulk very materially. In cold climates, however, rice only forms an adjunct to the dinner table. It is usually prepared with milk, and in reality it is the latter which supplies the flesh-forming principles which are required. It would be a great mistake to suppose that it can be utilised in cold countries to the same extent as it could in the tropics, where the activity of the individual is so much less, and his bodily exertion not so necessary. Rice has more or less of an astringent effect upon the bowels; therefore, it is specially useful in diarrhoea, either as rice water or as rice gruel, prepared with milk. It is a curious coincidence that the blight which attacks the rice plant has very many relations to the microbe which produces cholera in the human being.

*Rickets* is a disease in which the bones are deficient in the lime salts which enter so largely into their composition, and hence they lose the hardness which is essential to their healthy condition. In consequence of this, they are liable to become malformed and bent in various directions, according to the weight which is brought to bear upon them. Rickets, as a rule, are entirely due to want of proper nourishment. It has been erroneously attributed to a deficiency of lime in the water of certain localities, but this is a great mistake, as nature has provided for a sufficiency of lime being present in every healthy article of diet. It is, therefore, a matter beyond dispute that rickets invariably result from children being fed upon sloppy and unnatural articles of diet; in short, rickets resolves itself into a species of starvation. Where rickety children exist it will always be found that there is improvidence on the part of the parents. They are usually dissipated, and care less for their children than they do for their own individual

comforts, luxuries, and excesses. It is quite a mistake to suppose for a moment that rickets is a natural disease, and that it can be cured by the administration of medicine. A wholesome regimen must be adopted, or certainly the disease will develop into the usual outcome—viz., tuberculosis. Rickets are characterised by deformities of the limbs, of the pelvis, of the spine, and of the ribs, and, in many instances, of the bones of the skull. The best medical remedy, combined with wholesome nourishment, is the muriate of calcium, along with the syrup of the hypophosphites.

*Rigor* is that condition of the body which, although associated invariably with a very high temperature, gives the impression to the individual that he is intensely cold. It is invariably accompanied by shivering. It is usually the precursor of some feverish condition resulting from a contamination of the blood, such as is experienced at the onset of acute fevers and inflammations. It may, however, also result from some nervous irritation, when, of course, its import is not so great as if it were due to some septic influence acting upon the blood.

*Ring.* A ring fixed upon the finger may sometimes cause not only very great inconvenience, but considerable suffering. This is due to the fact that the ring compresses the finger so firmly as to prevent the proper circulation of the blood in the distal part of it; hence, it swells up, and may produce considerable congestion. The proper method to adopt in the first instance is to wind a piece of string round the distal portion of the finger, so as to compress it sufficiently to expel all the redundant blood that is contained within its tissue. Afterwards, the part should be greased with vaseline or some similar substance, and the ring endeavoured to be pulled off. If this does not suit, then the ring must be cut and taken off in this way.

*Ring-Worm* is due to the presence of a fungus which locates itself within the hair follicles of the skin, and by

the development of its progeny there spreads sometimes over a considerable area. It rarely attacks the hair of adults, but in children it frequently produces most disastrous results, and is a disease always difficult of eradication. It radiates from a centre—hence the origin of its name—and in its progress destroys the hair, or rather it destroys the power of the hair bulbs to develop new hair. The proper method to treat it, if recognised in its very earliest stage, is to apply some powerful parasiticide, such as acetic acid, carbolic acid in solution, or strong mercurial ointment. Before applying any of these substances, however, it is necessary to wash away from the surface which is invaded all greasy matter, by means of carbolic soap. Another remedy which has been advocated for this affection is turpentine, frequently applied to the part. When the disease attacks the beard, whiskers, or moustache of an adult, it is then very much more difficult to eradicate, and in these circumstances it is absolutely necessary that every hair be pulled out by the root, and an ointment, composed of one part of oleate of mercury ointment, one part of the oleate of zinc ointment to which has been added one-eighth part of aristol, be applied. This ointment should be well rubbed into the affected part night and morning, and continued for a considerable period after all traces of the disease appear to have disappeared. At the same time the health of the individual should be strengthened by the administration of cod-liver oil, together with an abundance of nourishment. There can be little doubt, although it has not been tried on a very large scale, that the application of pure chloroform, repeated at frequent intervals, would have a most beneficial effect upon this disease. The author, however, has proved it to be very efficacious in this loathsome affection.

*Roasting* is not only a very ancient method of cooking meats, but one of the most wholesome that we are acquainted with. This is due to the fact that, by roasting,

the digestive salts of the meat are retained within its substance; hence, its digestion is very much more easily accomplished. It has been said that the roasting of meat renders it more digestible because it retains the gelatine, which is the natural constituent of the meat. This, however, is a gross mistake, as gelatine, in every instance, rather impairs the process, for the simple reason that it is a substance which is not nutritious, and only gives the stomach more work to do than there is any necessity for. It is the albuminous substances of the meat which are retained; these have been erroneously termed gelatinous. It is a well-known fact that for weak digestions under-done meat is very much more wholesome than that which is over-cooked, and there is no doubt at all that raw meat is much more easily acted upon by the stomach than that which is cooked. The eating of raw meat, however, and even that which is under-done, is repulsive to so many people that it is rarely partaken of. Another reason why meat should be properly, though not over-cooked, is, that frequently the eggs of certain parasites are contained in the flesh of animals, and these, by the heat which is necessary for the cooking of the meat, are destroyed.

*Rochelle Salt*, so called from the fact that the spring at Rochelle is composed of tartaric acid in combination with potash, or the tartrate of potash. It is a component part of seidlitz powders, and has excellent purgative properties when in solution with water.

*Rose* is an old, and still very popular, term which is applied to the rush of erysipelas, and is evidently derived from the fact that the eruption has a roseate appearance.  
*See Erysipelas.*

*Rose-rash* occurs very frequently both in children and adults in the form of patches having a rose-red hue. It is generally accompanied by slight disturbance of the system at large, and almost invariably is a concomitant of some gastric affection. It is devoid of all danger, and gene-

rally passes away when a dose of magnesia has been administered, and the gastric derangement put to rights by proper dieting. It is not at all uncommon in infants during the process of teething.

*Rubefacient* is an application which is made to the skin, and which produces a slight temporary congestion of the integument. It is synonymous with counter-irritants, and amongst the rubefacients which are generally employed are—mustard, hartshorn, friction, hot fomentations, chloroform, and turpentine. *Refer to Counter-irritation.*

*Rule of Life* is most difficult of application, for the simple reason that different constitutions require different regimens to be adopted according to the circumstances of the case. Many individuals have had their lives spoiled by certain rigid rules being enforced without consideration of the temperaments which they possess. It is quite absurd to imagine for a moment that certain laws can be laid down and must be observed by every individual, as their nervous temperaments, their idiosyncrasies, their peculiarities, and tendencies, are altogether ignored when any hard and fast rule is applied to them. Everyone should live up to his own light, and this could never be achieved by legal enactment. It is necessary, therefore, that when laws of health are to be considered, the peculiarities and idiosyncrasies of the individual should be consulted, and at the same time be allowed for. *See Indigestion.*

*Rum* is the spirit which is distilled from the products of the sugar cane, and contains when pure about 48 per cent. of alcohol. It is a spirit, however, which has become very much less popular than it was wont to be. At the same time, it is considered highly nutritious when combined with milk, and doubtless possesses many nutritious properties which other alcoholic beverages do not contain. It enters largely into the composition of a very popular liqueur called curacao, which is simply a tincture of bitter orange peel in rum. Rum and milk early in the morning

was at one time considered a valuable curative agent in the treatment of wasting diseases, especially those related to consumption.

*Rupture*, or *Hernia*, is the protrusion of one or other portion of the bowel, or of any of the contents of the abdominal cavity. This protrusion usually takes place in the groin, when it is called an inguinal hernia, although it may also pass through at a lower level than this, when it is termed a femoral hernia, the distinctive names being given to the rupture which passes through the inguinal or femoral rings. Hernias not unfrequently take place at the umbilicus, or navel. These are most frequently met with in females who have borne children, and are called umbilical hernias. In infants a slight protrusion may take place at the navel, but this, as a rule, is easily put right by a properly applied bandage. Hernias are said to be congenital or acquired. When a child is born with a hernia it is most desirable that a properly fitting truss be immediately procured and worn constantly, so as to prevent the bowel coming down. If proper precautions be taken in this respect the probabilities are that the swelling will soon disappear, at least within the course of two or three years, and not be liable to return unless the parts are subjected to some severe strain. When a rupture is acquired it is generally due to some powerful muscular strain which has forced the bowel down through the apertures or rings before mentioned. If the rupture has been produced in this way it must be reduced with as little delay as possible, and afterwards a truss worn to prevent its recurrence. When a rupture is due to this cause it is not so likely to be recovered from entirely, and it will be a necessity for the patient to wear a truss ever afterwards. There are surgical means, however, which may be adopted for the cure of hernia, and as these operations involve little risk they are to be recommended, as the comfort of the patient is so much increased and his peace of mind assured when there

is no dread of the rupture returning. When the rupture comes down, and cannot be returned again to the bowel by the individual himself, medical aid should at once be called in, and every expedient resorted to with a view to get the bowel replaced in the abdomen. Otherwise, it is liable to become strangulated, and when this occurs it becomes most painful from the inflammation which necessarily is set up, and may even prove fatal if operative measures are not immediately resorted to for its reduction. If the medical man fails by the process of what is called "taxis" in getting the hernia reduced, then it will be necessary to supplement this by the administration of chloroform with a view to relax the parts thoroughly. The employment of an anaesthetic in these circumstances is always attended with very great benefit, and generally enables the surgeon to reduce the swelling. If this fails, then the sac in which the bowel is contained, and which is composed of peritoneum, will require to be exposed, and the neck of the sac divided, so as to permit the bowel being replaced within the abdominal cavity. If this is not done with sufficient promptitude gangrene of the bowel will certainly result, when, of course, it will be almost impossible afterwards to avert a fatal issue. When a truss is worn for the relief of a hernia the greatest care must be taken in its selection and proper fit, and it is always safe and expedient to get the opinion of a medical man as to the proper kind of truss to purchase. Everyone who suffers from hernia should be particularly careful about the daily evacuation of his bowels.

*Sacrum* is that triangular bone upon which the spinal column rests, and which forms the posterior wall of the pelvis, into which it is inserted like an inverted arch, and fits in like a wedge between the pelvic bones.

*St. Anthony's Fire* was the old name for erysipelas; the reason for this name, however, is a mystery.

*St. Vitus's Dance* is a peculiar involuntary action, or perhaps it would be more correct to say an inability to

direct the action of the voluntary muscles. It is a disease purely confined to the nervous apparatus of the body, and is very closely allied to, if not identical with, rheumatism. It probably is entirely due to a rheumatic condition of the blood and a tendency to the development of this disease in the system. It is at all events a curious fact that chorea is closely associated with many of the symptoms and consequences which are peculiar to rheumatism. It is a disease for the most part confined to young persons, but may become so chronic in these as to last beyond the age of puberty and even beyond that of manhood. The most marked symptoms in this disease are the involuntary movements of what ought to be voluntary muscles—that is to say, muscles which, as a rule, are under the control of the will, refuse to act as the will directs, but make most erratic excursions in their endeavour to perform what is required of them. It is a disease which is associated with a considerable amount of twitching about the face and neck, and especially about the muscles of the mouth, the most extraordinary grimaces being made by those suffering from St. Vitus's dance, while on asking a child affected in this way to clutch or grasp any object his will seems to lose the power of directing his hand to do what he wishes. Many things have been blamed for the development of the symptoms of St. Vitus's dance. The probability, however, is that it, like all other rheumatic affections, takes its origin in a constipated state of the bowels, thereafter an acid state of the blood, and consequently a poisoned condition of the nervous apparatus, which culminates in a rheumatic affection of the whole system. The nervous apparatus in these circumstances is first affected. The great point therefore in the treatment of this disease is to observe strict regularity of the bowels, to counteract the rheumatic condition of the blood by means of salicine or salicylate of soda, and at the same time soothe the nervous symptoms (which naturally arise from the vitiated condition of the blood acting upon

the nerves which have become erratic) by means of valerianate of zinc combined with extract of conium—say, for a child of ten years old,  $1\frac{1}{2}$  grains of valerianate of zinc, and 1 grain extract of conium, made into a pill and given three times a day.

*Salads*, although very popular articles of diet, are not on any pretext to be recommended as wholesome. Many stomachs can digest them with the greatest of ease, and no doubt when they are partaken of by strong and vigorous people who have the advantage of engaging in out-door exercise to a considerable extent, salads form very wholesome articles of diet, because they supply many nutritious and digestible substances which are not to be obtained except in vegetable matter. Salads, when combined with animal substances and the different varieties of fish, often enable one to eat, in consequence of their palatable composition, when he might not be able to do so were the more common varieties of food presented to him.

*Salicine* is obtained from the bark of the willow tree and plants of various kinds. From the fact that the willow grows in damp, marshy districts, and rheumatism is prevalent wherever there is dampness and humidity of the soil, it would appear that nature has so arranged that wherever disease is developed by certain circumstances its antidote is at the same time provided in the immediate neighbourhood. Salicine is a peculiar bitter substance forming in crystals very like the other alkaloids with which we are so well acquainted, such as quinine. It is not only a remedy, but a specific for rheumatism, especially that of the acute character; but it matters not what the nature of the rheumatism is, whether it be acute or chronic, whether it be due to some deposit within the joints or inflammatory affection of the tonsils, or chorea; in short, if rheumatism is the cause of the suffering, salicine will invariably be the medicine that should be prescribed. Many a case of acute rheumatism has been cut short by the action of salicine,

and in the author's experience no case of tonsilitis need ever progress to the stage of suppuration if salicine, combined with guaiacum, be properly administered. There are other preparations of sálicine which are also employed for similar purposes—viz., salicylate of soda, salicylic acid, and salicylate of various bases which it is quite unnecessary to enumerate. All, however, have peculiar antidotal properties over rheumatism. There can be little doubt that this important medicine acts very much in the same way as other antipyretics act—viz., by destroying the poison which is generated by the fever producing the attack.

*Salines* are those substances which, as the name indicates, contain salts, such as saline mixtures, saline springs, saline compounds, etc. The great saline, however, which enters not only into the various springs, but also into the medicines made up in the laboratory, and which are called salts of this kind, or salts of the other kind, have invariably for their essential constituent the good old and useful medicine, sulphate of magnesia, or Epsom salts. Whenever a saline is required the proper way to administer it is not in a concentrated dose, but in a small dose combined with a large quantity of water, and thus it will act as nature indicates in the method which she adopts in providing the various springs which have proved so useful in all generations for the relief of certain maladies, all of which, be it rheumatism, gout, dyspepsia, nervous depression, or whatever else, are always due to an inefficient action of the liver and bowels, and the former usually depends upon the latter.

*Saliva* is the secretion of the glands surrounding the gums, which have their exit in the cavity of the mouth, and are stimulated by the act of chewing, and especially the chewing of savoury foods. It is entirely due to the action of the saliva that starch, or farinaceous matter, is digested. Starch, by the action of the saliva, is transformed into glucose, and thereby becomes fit to be acted upon by the biliary and pancreatic secretions, and then

transformed into chyle. Gastric juice, however, on the other hand, has no effect upon starch, so that in the partaking of starchy food it is essential that these be thoroughly masticated and mixed with the saliva before passing into the stomach. It is a wonderful fact that the very idea of partaking of food often sets the salivary glands into action, and we frequently find that even the odour of cooking is sufficient to excite the appetite and operate on these glands. Thus, we hear of one's mouth watering, or one's teeth watering, when odours are experienced. It is quite unnecessary for one in a work of this kind to enter into the various chemical constituents of this most interesting fluid; suffice it to say, that its acting principle is due to the presence of ptyaline, which has the power of acting upon diastase and starch, and transforming these into glucose or saccharine matter. Saliva may therefore be considered to be one of the digestive juices, as without its aid a great many distressing symptoms, such as acidity, flatulence, distension, and inconvenience would be experienced.

*Salivation* is the excessive secretion of saliva, and may be due to mercurial poisoning, the administration of iodide of potassium in excess, or to a diseased condition of the nerves regulating the action of the salivary glands. Some people have a peculiar faculty of secreting saliva to a degree which can neither be pleasant to themselves nor agreeable to those in their company.

*Salmon* is one of the oily fishes, and is closely allied to the herring, as far as its effects upon a weak digestion go. Salmon, herring, eels, and all other oily fish should be partaken of very sparingly, and only by those who have strong stomachs. Salmon and herring are equally liable to have decomposition going on within the fat that lies underneath the skin, and cases of poisoning have often been traced to this rancidity which is apt to occur in these varieties of fish.

*Salol* is a coal-tar product employed in the treatment of rheumatism. It has been employed in solution as a lotion, and when it is applied round inflamed and rheumatic joints is said to be of considerable service. Its benefits are most powerfully and permanently demonstrated, however, when it is partaken of by the mouth, the dose being from 5 to 15 grains every two hours in cases of rheumatism or feverish attacks. This substance, however, neither possesses nor does it deserve the reputation which has been obtained by salicine, its compounds and phenacetine.

*Sal-Prunell* is a purified form of saltpetre, which is generally sold in the form of marbles. It is an old but exploded remedy for the treatment of sore throat, but no doubt it has had its day, and has proved of service in these circumstances.

*Salt* is applied to everything which is soluble in water, and has an elementary body, such as potash, soda, lime, or magnesia for its base. It is usually applied, however, to the salt which is employed for domestic purposes, although it must be understood that it is not because of this term that the general cognomen has been adopted. Salines and salts are identical as far as chemical composition goes. In this paragraph, however, the term must be confined to that of the chloride of sodium, which is the salt that is employed for domestic purposes. It is composed of equal portions of chlorine and sodium, and is contained in large quantities in various springs, in mines, and, as is well known, in sea-water. Without it it would be impossible for the stomach to secrete the various juices which are essential to digestion. Chlorine, for instance, enters largely into the composition of gastric juice, and without common salt it would be very difficult to procure chlorine. Salt, as is well known, has many properties beyond its uses as a digestive agent. It has wonderful antiseptic and, in consequence, preserving powers, which, before the knowledge of antiseptics was so perfect as it is at present, were made available for, and

utilised to a very large extent in, the preservation of animal food.

*Salt Meat*, in consequence of its being immersed in salt and water, or in brine, has extracted from it many of the properties which are essential to its virtues as a digestive and nutritive agent. Hence, salt meats are always very difficult of digestion, and at the same time are less nutritious than fresh meat. It is in consequence of these essential constituents being extracted from meats in the process of pickling, or of salting, that the pernicious effects have been produced when soldiers and sailors have been obliged to subsist upon these articles to the exclusion of fresh vegetables and fresh meat, and scurvy in its most painful and virulent forms has developed. Nowadays, however, these risks are reduced to a very considerable extent by the introduction of preserved meats and vegetables, which can be stowed away in such small bulk, and at so small a cost, as to do away with the necessity of exporting salted and pickled meats. *See Preserved Provisions.*

*Sal-Volatile* is the aromatic spirits of ammonia, and is both a stimulant and an antiseptic, and is especially useful in the treatment of fainting, flatulence, hysteria, recovery from drowning, hanging, prussic-acid poisoning, or any circumstances which depress the heart's action.

*Sanatorium* is a title which has been adopted by various hydropathic establishments, indicating that they are intended not only for the preservation of, but the restoration to, health. Sanatorium properly described, however, would mean an institution specially adapted for the promotion and preservation of health. Convalescent homes, however, must be regarded as sanatoria, and all places which are resorted to by patients for the conservation, preservation, or restoration of their health must be considered as such. Amongst these places may be mentioned Torquay, Bournemouth, Ventnor, several places in Cornwall which, as yet,

have not received the notice they deserve, and any place which has the reputation of being possessed of peculiar advantages with regard to shelter from cold and piercing winds, and which at the same time has a dry and equable climate. Bridge-of-Allan and Crieff are noted places in Scotland; while, on the continent, the whole of the Riviera, Italy, and Engadine, and many other places are noted for their salubrious atmosphere at certain seasons of the year, and are therefore resorted to by those in search of health. Many attempts have been made to provide warm climates in this country, that is by the application of heat to large buildings composed of glass, but the absence of sunshine goes very far to militate against any real benefit being conferred by such establishments.

*Sanitas* is one of the most agreeable and efficient anti-septics and deodorisers that we possess. It is manufactured from common turpentine, which is oxidised by certain chemical processes, and which transforms this substance into one which seems to be closely allied to ozone in its chemical properties. It may be employed by sprinkling it over the carpet, upon the bed-clothes and hangings of the room, none of which it injures in any way, and its vapour when thus employed gives a pleasant character to the atmosphere of the sick-room. It can also be employed in the form of spray in sore throat, or to any portion of the body where it may be thought advisable to use it as an application.

*Sanitation.* Sanitary regulations and laws are daily acquiring greater and greater importance, both amongst the public and the medical profession. Numerous Acts of Parliament have been passed with a view of enforcing certain sanitary laws, the observance of which not only adds very much to the comfort of the population at large, but also to individual health; and hence the longevity of the population has been very much increased in consequence of the abolition to a large extent of certain diseases which

at one time were prevalent to an enormous degree. Were it not for sanitary enactments our large cities, which to-day are almost free from typhus fever, would still be the hot beds of this terrible scourge. Cholera, by these measures, has been rendered almost impossible in this country, while typhoid fever and all other zymotic diseases have been reduced very much, not only in virulence, but in the frequency of their attacks. Sanitation, however, does not entirely depend upon Acts of Parliament. The individual must also be educated in this branch of science, and he, by his own efforts and care, will be enabled frequently to avert disease when it may be threatening, or to prevent its possibility, by adopting suitable measures which have for their object free and abundant ventilation, cleanliness, and exclusion of foetid gases from dwellings, and the obtaining of pure water and milk. As is well known, many of the diseases which we call infectious are communicated by these two fluids much more frequently than they are by inhaling a contaminated atmosphere. Perhaps one of the most important advances that has been made in recent years with regard to sanitation is the closing of graveyards within towns and cities; but what would be a greater advance still would be to do away with burial of the dead altogether and adopt cremation instead. The process of decomposition which goes on after burial in the long run only culminates in what cremation would accomplish in a few minutes, while in the process of the chemical change which naturally takes place after death the living are injuriously affected, in consequence of the atmosphere being contaminated by the foetid gases which naturally emanate from decomposing tissue.

*Santonine* is a valuable remedy in the "lumbricus," or round-worm. It is the active principle of worm-wood, and possesses poisonous properties as regards the above-mentioned parasite. The dose of santonine is from two to six grains, but its administration should be preceded by a

dose of castor oil. It may be taken in milk at intervals of eight or twelve hours, and afterwards followed by a dose of castor oil each time. Such a course of treatment usually results in a complete evacuation of the worms from the intestine. As is well known, these worms wander about all through the intestinal tract, and may be either passed by the bowel or vomited by the mouth ; indeed, the author has known them to be vomited into the nares and actually passed through the nose. It is needless to say that the presence of these creatures is highly prejudicial to health, and gives rise not only to great weakness, but to many nervous symptoms which oftentimes become very alarming, such as convulsions, etc.

*Sarcinæ Ventriculi* are fungoid developments within the stomach, always accompanied by great distension of that organ, with sickness and vomiting. They are associated with a highly acid condition of the secretions of the stomach, and the vomited matter is invariably found to contain these peculiar fungoid developments. Under the microscope they appear as small packages, and are often associated with the ordinary yeast plant, or "torula cerevisiae." The treatment of this troublesome form of dyspepsia can only be undertaken by a qualified medical man, but it is a mistake to suppose that by simply destroying the fungus we eradicate the disease, because the fungus can only exist when the secretions of the organ are unhealthy; therefore, while such substances as the sulphite and hypo-sulphite of soda destroy the vitality of the parasite for the time being, it will almost certainly recur if measures are not adopted to improve the digestion and invigorate the stomach. The occurrence of this particular form of indigestion is most frequently observed in those who live largely upon a vegetable diet, such as potatoes, oatmeal, and bread. It is therefore very common in some parts of Scotland, and also in Ireland. When this peculiar condition of the stomach exists it is very liable to be accompanied

by distressing nervous symptoms, such as great depression of spirits, irritability of temper, and a morbid condition which may almost appear to border upon mania.

*Sardonic Smile*, or Grin, is a characteristic symptom of lockjaw and many other convulsive affections. The peculiarity of this smile is that the corners of the mouth are drawn back and the teeth exposed.

*Sarsaparilla* at one time was a most popular medicine, and was believed to be possessed of wonderful purifying effects upon the blood. It is extracted from a creeping plant, native of the central and northern portion of South America. The root is brought to this country tied up in bundles, which are cut up into chips for the market. Sarsaparilla is usually prescribed in the form of decoction or infusion, and has found considerable favour with some medical men, especially when combined with iodide of potassium, in the treatment of syphilis and other constitutional disorders.

*Sausages* as a general rule are very indigestible articles of diet, and are liable to contain many unwholesome ingredients. Many deaths have been traced to the partaking of sausages, these probably being due entirely to the fact of the meat of which they are composed being unwholesome, and possibly putrid. The symptoms, therefore, of poisoning by sausages are almost identical with those which are described under the article of Putrefaction.

*Savine* is used both externally and internally. When employed as an application it is usually made up in the form of ointment, and in consequence of its irritating properties has been frequently employed as an application to blisters to prevent them healing. Internally it is said to have considerable stimulating effects upon the functions of the womb ; hence it has been prescribed in delayed menstruation, or when functional weakness was present in the sexual organs.

*Scabies* is another name for itch, in consequence of the

disease being due to the insect called acarus scabies. *See Itch.*

*Scald* is a burn produced by the application of hot water or fluid of any kind. When a scald has been sustained the best application is a solution of Condy's fluid in water, applied on bits of cotton or linen, and frequently changed, by which means the heat is extracted from the part and decomposition is prevented if the blister bursts, and hence healing is very much hastened.

*Scald Head* is a term applied to many loathsome encrustations which affect the scalp, but the term should be entirely confined to that disease which is called "porrigo favose," which is a skin affection having a vegetable or fungoid origin, the fungus dipping down into the hair bulbs very much in the same way as that of ring-worm does. The irritation produced upon the scalp by this parasite develops an effusion of serum which exudes and forms crusts or scabs upon the surface, within which the fungus exists and develops its spores. It is a disease which is always associated with filth. The encrustations may advance to such a degree as to cover the whole scalp. From the diseased surface a most peculiar odour of a disagreeable character constantly escapes. The disease produces itching, which aggravates it in consequence of the scratching which it excites, and the consequent irritation and erosions which are produced where the disease locates itself thus form new centres from which it radiates. The treatment to adopt in this affection is to apply a poultice to the affected part, so as to enable the crusts to be lifted off entirely, after which equal portions of the oleate of mercury and oleate of zinc ointment should be well rubbed in night and morning. Another excellent ointment for use in these circumstances is composed of 8 parts of oleate of zinc ointment, 8 parts of oleate of mercury ointment, 2 parts of quinine, and 1 part of chrysarobin. This also should be rubbed in night and morning.

*Scalp*, or Skin of the Head, is thicker and denser than the integument of the body, and it is connected with the parts immediately beneath it by cellular tissue. These characteristics give it a peculiar power of resisting the effects of violence, as its elasticity and vascularity render blows and bruises not only less injurious, but also more easily recovered from. A cut in the scalp heals very readily, and the effects of a bruise very soon disappear. Great care should be taken in all cuts or abrasions of the scalp that they be cleansed thoroughly from dirt which may have found entrance there. After the wound has been thoroughly cleansed an antiseptic solution should be applied, such as Friar's balsam, a 5 per cent. solution of carbolic acid, or a very weak solution of bi-chloride of mercury, or even pure whisky. By the application of such substances the tendency to suppuration will be greatly reduced. If a wound is deep and gaping a few stitches may be necessary, but as a rule these can be dispensed with in injuries to this part of the integument, as after the hair has been cut off round the injured portion the lips of the wound can be drawn together by plaster, and kept in position by these until union takes place. Bleeding from wounds in the scalp is often very profuse, especially if an artery has been injured. In such circumstances it will frequently be necessary to have these picked up by means of artery forceps and tied. Simple pressure, however, often arrests the bleeding very quickly, and can be readily applied to the scalp in consequence of the hard skull which lies immediately beneath. One considerable danger, which should never be lost sight of in injuries of the scalp, is the tendency for erysipelas to attack a bruised or contused wound. This, however, can only be the result of carelessness on the part of those in charge, as erysipelas is well known to be a poison introduced from without. It is therefore imperative that the wound, as has been indicated, be thoroughly cleansed and protected from

atmospheric influences by means of antiseptics carefully and efficiently applied. In many instances the edges of a wound of the scalp can be kept together by plaiting the hair on each side, and bringing the lips in contact by drawing the hair across the line of incision, thus keeping them fixed there. The scalp is often the seat of small cystic tumours, which are filled with a peculiar-looking matter resembling porridge in its appearance. These little growths are generally hereditary in their nature, and although not dangerous, yet cause considerable inconvenience to those affected. They can always be removed without much pain, and at no risk, by incising the scalp and drawing the tumour out in its entirety by means of forceps. Great care, however, should always be exercised in extracting these tumours, as it matters not how little of the cyst remains, it will always give rise to another growth if it is allowed to retain its vitality. These tumours go under the name of atheroma, which name is derived from the peculiar appearance of their contents. The scalp is the seat of various forms of skin disease, such as ring-worm, scald-head, eczema, pityriasis or dandriff, prorigo, alopecia, etc. In consequence of the dense character of the scalp, and the peculiar punctated condition of its structure, there is a large area and great facility for the development of fungus diseases, in consequence of these insinuating their filaments within the hair follicles, where they are often very difficult to reach by parasiticides. The proper method to adopt, therefore, in all affections of the scalp is to remove the hair by shaving, and thereafter rub well into the hair follicles the parasiticide which it is advisable to adopt in the particular circumstances. The remedies which are most efficacious where infectious diseases of the scalp exist are—the oleates and nitrate of mercury ointment, the acetum cantharides, turpentine, chloroform, chrysophanic acid, chrysarobin, etc. It must be borne in mind, however, that although the disease may seem to have

been eradicated the spores are liable to exist for a considerable period after all traces of the disease seem to have disappeared. It is, therefore, always wise to continue the applications long after the disease has apparently been cured. While the local treatment is going on it is essential that the children should be well nourished, have plenty of fresh air, have their bowels regularly attended to, and be placed in circumstances which shall be most conducive to their being kept in good vigorous health.

*Scammony* is a gum resin possessing cathartic properties of a drastic character. It is procured from a species of convolvulus which grows in the countries of Southern Europe. It is a most valuable purgative, both on account of its powerful action and also because it is easily taken by children. It is, however, a pretty expensive drug, but in consequence of the small dose required to effect its purpose this need not be taken into account. Combined with calomel, scammony is a useful medicine in thread-worm. It is also serviceable in certain conditions of the liver, especially when this organ is sluggish, and even in jaundice it proves highly efficacious because of its energetic and rapid action. In cases of incipient jaundice the author invariably begins by prescribing 4 grains of calomel with 20 grains of the compound scammony powder—this to be repeated in six hours if the evacuations continue to be white. The dose of scammony for a child three years old is about 5 grains of the compound powder, in which form it is usually prescribed, as scammony itself would gripe too much. If thread-worms are present in a child of this age 3 grains of calomel may be mixed with 5 grains of compound scammony powder, and given early in the morning before any food has been taken.

*Scapula*, or the Blade of the Shoulder, is a flat triangular bone through which a ridge runs for the attachment of muscles. It is one of the means of connecting the arm to the trunk of the body, and permits of its free motion by

the scapula being articulated to the muscles at each side of the spine.

*Scarf Skin*, Epidermis, or Cuticle, is the outermost layer of the skin, and is composed of epithelial cells of a horny character. This epidermis, or scarf skin, is liable to certain diseases, such as pityriasis, psoriasis, eczema, and when the scalp is attacked dandriff or pityriasis is liable to occur. All diseases of the scarf skin should be particularly attended to, as they are liable to become chronic if neglected.

*Scarifications* are slight incisions or scratches made upon the skin or upon the mucous membranes. Scarifications are used for many purposes, such as for the performance of vaccination, for the relief of any congested portion of a tissue in the neighbourhood, as in congestion of the womb, when the cervix is frequently scarified, although much more useful methods of treatment have recently been adopted. The gums are also scarified in children who are teething when there is any obstruction to the teeth passing through their gummy sheath.

*Scarlet Fever* and *Scarlatina* are synonymous terms which go to describe one of the most dangerous diseases that childhood is subject to. It must not, however, be taken for granted that childhood alone is subject to scarlet fever, as it not unfrequently attacks the adult and the aged. In children, however, its virulence seems to be most manifest and its malignity most clearly exemplified. It is a curious question what the origin of scarlet fever is. For my part I am inclined to think that it is a disease which does not take its origin in the human species, but is the result of the partaking of milk of cows affected by a specific disorder. Of course it is a disease which is highly infectious; but it would seem, in almost every instance where an epidemic breaks out, that its origin takes place in a dairy, or perhaps it would be more proper to say from the partaking of milk supplied by one or more dairies

whose sources of supply are almost, if not altogether, identical. The disease is peculiar in its attack: It invariably manifests itself by the development of sore throat accompanied by vomiting, together with a considerable amount of febrile disturbance. In from twelve to twenty-four hours after these symptoms have shown themselves, a red brilliant rash appears upon the chest and gradually extends to the trunk and limbs; along with this there is high fever, and sometimes the disease may be so virulent as to produce gangrene of the throat accompanied by terrible prostration. The affections of the mucous membrane do not always finish where they begin, but very frequently spread by continuity of tissue into the nose, eyes, and ears, and are in consequence productive of immense disorganisation of these highly sensitive portions of the economy. In other cases the disease may have been imbibed by the individual, but his vitality may be so impoverished that he is unable to make even an attempt of throwing it off either by the throat, stomach, or skin, or what is very much more likely, the dose of the poison which he has imbibed has been so great as to entirely paralyse the whole functions, and thus disable them from even making the attempt to throw off the poison. By the development of the peculiar symptoms which are characteristic of it such cases are usually called suppressed scarlet fever. This, however, is not the case at all; it is neither more nor less than an overpowering of the system by a virulent poison which exerts its full force, and results invariably in the speedy death of its victim. Scarlet fever, doubtless, finds its entrance to the system through the mouth, not through the lung as so many suppose. My reason for inferring this is, that the poison always manifests its existence in the first place upon the tonsils, which glands, as is well known, secrete a tenacious fluid, and not only entrap the poison of scarlet fever, but that of diphtheria also. Portions of the poison,

however, escape this trap, if it may be so designated, and enter the stomach, and there create an amount of disturbance which results in the stomach making violent efforts to get quit of this; hence the vomiting. This poison, therefore, has two modes of gaining access to the body—viz., by the tonsils and by the stomach, and by one or other it makes sure, as a rule, of its progress being unimpeded. As soon as the poison has entered the blood high fever sets in, which may have been scarcely noticeable before the constitutional symptoms became apparent. It was, however, present even at the very onset of the disease, although possibly not quite so marked. When this fever develops thoroughly, the rash, the peculiar scarlet rash characteristic of the disease, develops upon the chest and limbs. As soon as this has thoroughly developed, the disease as a rule may be said to be within control, that is to say if the strength of the patient is well maintained. The fever may be modified very much by the administration of phenacetine, and by the administration of diaphoretics, every two or three hours. The diet at the same time should consist largely of gruels thinned with milk, and administered in a warm condition, until the skin has been encouraged to act to its fullest extent. It is also necessary, however, to keep the bowels freely moved every day, while the condition of the kidneys should be particularly attended to. After the lapse of three or four days the rash will subside, but the severity of the eruption has been the means of paralysing the skin to such an extent as to disable it from performing its healthy functions and developing to its full perfection its epithelial layer. The cuticle, or epithelium, is thrown off in flakes until the skin has sufficiently recovered from the effects of the poison which has so taxed its efforts to throw off. Six weeks, therefore, must necessarily elapse before the patient is exposed to the ordinary surroundings of life, as until his skin has become so mature as to enable it to perform its

healthy functions perfectly, contagion may still exist in the individual. We must remember also that not only does the external skin become disabled by the effects of the scarlet-fever poison, but the mucous membranes too participate in the destructive effects upon their epithelial lining; hence the kidneys frequently suffer if the patient is exposed to cold before their mucous membrane has become thoroughly re-established in health. The mucous membranes of the Eustachian tube and of the internal ear, as well as of the nose and throat, require a certain time to elapse before they can be said to be free from susceptibility to disease, and therefore to the tendency to prejudice the organs of sense with which they are in immediate communication. The grand points in the treatment of scarlet fever are to keep the patient quiet in bed in a well-ventilated room, comfortably clothed, and at the same time attend to the daily evacuation of the bowels, while for the immediate symptoms which exist, such as sore throat, chlorate of potash may be given in a saturated solution with water every half hour or so. The fever may be controlled perfectly by the administration of phenacetine, and if necessary the action of the skin promoted by the administration at frequent intervals of a diaphoretic mixture. The diet should be light and simple, and largely composed of farinaceous gruels thinned with milk, with the object of promoting the action of the skin and of the kidneys. At the same time the starchy matter which it contains tends very much to conserve the strength of the patient by providing pabulum for the fever which is raging. It must always be remembered that scarlet-fever patients retain their powers of communicating the disease to others for a very considerable period, and they should invariably be put into quarantine for forty-two days before being permitted to mingle with other children. It is a comfort, however, to know that if once a patient has suffered from scarlet fever he will never suffer from it

again, and the greatest care should therefore be taken to discriminate carefully between scarlet fever and other rashes which may resemble it as far as the skin affection is concerned. I have frequently seen cases of ordinary nettle-rash and erythema diagnosed as scarlet fever, and the parents of the children so suffering have been put to very great inconvenience, and expense as well, in their endeavours to isolate the patients and prevent the disease being communicated to the other children, when the affection was one which in the ordinary course of nature would have passed off in a few days. When scarlet fever has manifested itself in any house the first duty of the parents is to communicate the fact to the sanitary authorities, who will take every precaution to prevent its spread from this particular source, but who will at the same time have their attention directed to what they consider the original fountain of the disease, and this may probably be ascertained to be in some neighbouring dairy. The powers of the Health Act are sufficient to enable the sanitary authorities who are thus apprised, to frequently stamp out an epidemic at its very outset, and thus be the means of saving not only many valuable lives, but an immense amount of anxiety to parents and friends. Every parent and guardian therefore should, in all instances, have no hesitation in reporting at once to the sanitary authorities the cases that may occur in their own household.

*School.* It is a matter of considerable consequence to the child when he or she is sent to school. Many diverse opinions obtain upon this particular point, but it is a fact beyond dispute that children who are sent too early to school neither profit by the attempt at forcing their tuition nor by the strain that it entails upon their bodily strength. There can be no harm certainly in teaching children by easy methods, such as the kindergarten and home tuition, but that a constraint should be placed upon very young

children is certainly one of the greatest errors that can be committed by either parents or guardians. It should always be remembered that a child's physical strength is quite as important, if not a more essential consideration than the mere inflating his mind with knowledge by which he never will be permanently benefited. If careful observations are made it will be found that children who are sent to school for the first time at 7 or 8 years of age will, at the age of 12 or 13, be quite as far advanced as those who have been sent at a much earlier period. Besides this, their physical condition will be very much more developed, and they will thus be enabled by the physical strength which they have attained to bear the brunt of work with less danger to their general health than those whose nervous energies have been strained when they were unable to bear the burden which was so prematurely thrust upon them. It is well when children are sent to school that their meals and meal times should be carefully attended to; long fasting in children is particularly pernicious. It is therefore important that they should be able to have both food and recreation at short and regular intervals, together with an abundance of outside exercise between their lessons. It is also an important point that the school rooms in which they are engaged should be well ventilated, but at the same time free from draughts, and corporal punishment should in every instance be strictly prohibited. It is well known that this is frequently indulged in by teachers of a passionate disposition, more for the gratification of their own ill-temper than for the benefit that is likely to accrue to the scholar. In short, I would strongly urge upon parents who find that their children have been punished by anything approaching to corporal punishment to have the teachers brought up for assault, so that sooner or later this method of punishment will be entirely discontinued.

*Sciatica* takes its name from the fact that the sciatic nerve is affected in this disease. *Sciatica*, therefore, is the

term which is applied to neuralgia of this particular nerve. It is the largest nerve of the body, and from it proceed the various branches which supply the lower limb from the thigh down to the toes. As has been inferred, it becomes at times the seat of very severe neuralgic pain, which is felt not only in the course of the nerve itself, but also in its various branches. The pain, however, may confine itself to the upper part or trunk of the nerve; but, as a rule, the trunk alone is not only involved, but the different offshoots supplying the calf of the leg and the foot, also participate in the painful affection. It is a disease of the acutest nature, so far as pain is concerned, but beyond the fact of this, and that it disables the victim from moving about, and at the same time interferes with his rest, it is not in the least dangerous to life. The disease may arise from a debilitated state of the system, and, in consequence, a hyper-sensitive condition of the nerve results; but, as a rule, sciatica is due more or less to the fact that the sheath of the nerve has become affected by a rheumatic condition of the blood, which tends to produce congestion of this membrane, and therefore pressure upon the nerve. Any affection of the blood which indicates a departure from health may induce sciatica, such as an acid condition, or a vitiated condition arising from other causes, the most noticeable of which is the absorption of foetid matter due to constipation of the lower bowel. The first thing that should be done with regard to the treatment of this painful disease is, to effect a clear and healthy condition of the lower bowel, after which, if the pain does not subside, salicine may be given in regular doses of 20 grains every two or three hours for an adult. If this does not succeed in relieving the pain, quinine in 5-grain doses every four hours may be employed; and should these measures fail, 10 grains of phenacetine along with 2 grains of caffeine may be given every four hours, and, as a rule, this will have the effect of at least alleviating the severe suffering.

At the same time, however, it will be essential that the general health of the individual be maintained as far as possible by the administration of good nourishing food, combined with port wine or stout, if these be required. Phosphorous, in the form of the compound phosphorous pill, should also be given regularly, at least three times a day. Constitutional treatment, however, does not always succeed in relieving this painful affection, and it may be necessary to resort to counter-irritation, either over the roots of the nerve or along its course. In the first instance liniments having a counter-irritant, and at the same time soothing effect, may be employed with considerable advantage—such as a liniment composed of acetic acid, compound camphor liniment, soap and opium liniment, of each equal parts; a little of this to be well rubbed into the parts affected every three or four hours. If this does not succeed in relieving the pain, then the following liniment may be applied at the same intervals, viz.:—Menthol, 3 drachms; chloroform,  $\frac{1}{2}$  an ounce; belladonna liniment,  $1\frac{1}{2}$  ounces—a little of this may be applied, either rubbed well in to the part affected or upon a flannel saturated with the mixture. In every instance it will be necessary that the patient be kept at rest, so as not to irritate the branches of the nerve by movement of the muscles which it supplies. There is another treatment which has been frequently recommended for this disorder, and that is, the subcutaneous injection of morphia. It is needless to say that such a method of alleviating the pain of this disorder is to be condemned without stint, and this because it is very liable to give rise to a most pernicious habit which may cause the patient very considerable trouble to rid himself of.

*Scirrhous* is derived from a word indicating hard, and is applied to a form of cancer which is specially liable to attack the breast. If this disease is not taken in time it is liable to ramify and involve the tissues in its immediate neighbourhood. *Scirrhous* is the form of cancer specially

liable to set in in the breast, but when it is detected in its early stage can readily be eradicated by means of the knife. Any other method will have no effect in removing the disease, whereas, if an operation is undertaken at a sufficiently early period, the patient may rest assured that the malady can be effectually and thoroughly removed. The great danger lies in procrastination, as no disease is more amenable to treatment than cancer when it is detected in its earliest stages and means are taken for its complete removal. If time is allowed to elapse, and the disease permitted to gain hold upon the constitution, it is much wiser not to attempt its removal, as thereby the life of the patient, which is already in danger, is placed in very much greater jeopardy than if no operation had been attempted.

*Sclerotic* is the second layer of the eye, and is composed of a fibrous material. It lies subjacent to the sclerotic coat. It is the membrane which is exceedingly liable to rheumatic disease, and when it is affected the appearance is quite different from that which is manifested in inflammation of the conjunctiva, the latter being of a rosy red colour, whereas, where inflammation of the sclerotic occurs, it assumes more the appearance of a livid congestion. When scleritis, or inflammation of the sclerotic, occurs, it is of much greater import than when the disease has affected the conjunctiva alone. Inflammation of the sclerotic is always accompanied by severe aching pain surrounding the eye-ball, whereas in conjunctivitis the pain is confined to the surface of the eye-ball alone.

*Screaming* of infants is invariably an indication that the child is suffering from pain of some particular organ of the body. As a rule, this is generally traceable to some digestive disturbance, and is the effect of dyspepsia, producing flatulence, and therefore griping. The first aim, therefore, should be to ascertain whence the cause arises, and if the bowels be distended a dose of castor oil should be administered without delay. Should this not remove

the cause of distress, a carminative mixture composed as follows should be administered, viz.:—Bi-carbonate of soda, 30 grains; tincture of cardimoms, spirit of nitre, of each two drachms; aniseed water to make two ounces—a tea-spoonful of which may be given every two or three hours. This will probably be followed by considerable relief; because, as a rule, dyspepsia or indigestion in children is usually associated, especially in boys, with a difficulty in making water, and this mixture will not only act as a carminative to the bowels, but also as an aid to the difficulty which is experienced in the passing of urine. Screaming, however, may arise, and very frequently does, from some external injury, especially the pricking of a pin or some injudicious movement which has been made by the nurse who has charge of the child. It is therefore necessary to satisfy oneself in every instance where any circumstance of this nature has occurred which has produced pain.

*Scrofula* is one of those disagreeable terms which has been applied to certain constitutional tendencies appearing in the young. It is, in fact, synonymous with tuberculosis, and is a term which should at all times be discarded as conveying an erroneous impression, and which brands the individual to whom it is applied with a loathsomeness which is quite beyond what it really indicates. Many individuals are condemned in a way which should never have obtained credence, by the fact that they have scars upon their neck. Now, these scars may not, and frequently do not, result from scrofula. They are simply the effects of abscesses which have formed within the parotid or submaxillary glands, and which do not in the very least, in many instances, indicate that these children have been tubercular or the subjects of scrofula. An inflamed condition of these glands may develop into abscesses, which, if not properly attended to, result in scars which are very offensive, and exceedingly disfiguring. The scars, however,

are invariably the result of a want of knowledge on the part of those in attendance; as even if an abscess does form, which frequently will happen when the disease in a gland has proceeded to suppuration, any subsequent mark can be avoided by prompt measures being taken by the medical attendant. These measures consist in evacuating the pus before the skin has become so attenuated by the progress of the abscess, and its vitality therefore interfered with, to such an extent as to prevent it healing, as it otherwise would do had the abscess been opened and the pus allowed to escape in its early stages. No doubt, when these glands are diseased and this proceeds to suppuration, the child is in a condition of health which may require medical treatment. This, however, should not altogether be depended upon, because nature will be very much assisted in its efforts to throw off the disease or to procure its resolution, if the general health is assiduously attended to. Where there is a tendency to a glandular affection of this kind, many medicines prove of immense service; but the most prominent of these is the muriate of calcium, which, if administered regularly after food, will have a specific effect in affording to the glands an amount of vitality which may enable them to throw off the disease entirely. Cod-liver oil and extract of malt are also very valuable medicines in these affections, and should invariably be prescribed, but not to the exclusion of muriate of calcium, which probably is the most efficient remedy, both in preventing disease of the glands, and at the same time enabling them to throw off disease when it has taken possession of them.

*Scurf* is always a most disagreeable thing to contend with. It arises from an unhealthy condition of the cuticular or epithelial layer of the skin of the scalp, and is entirely due to the fact that the cells which cover the outer layer of the skin in this region are immature, in consequence of some unhealthy condition of the integument, the result being

that these are thrown off before they become thoroughly matured. The object, therefore, should always be to promote a healthy condition of the outer membrane of this particular portion of the skin, whereby their tendency to exfoliation will be diminished. When dandriff exists the following pomade will be found very efficacious in removing the disagreeable consequences of this troublesome, though not serious, affection, viz.:—1 part of the red oxide of mercury ointment, combined with three ounces of pomade, and applied every day just as pomade is used in the ordinary way. The head, however, should be washed at least once a week with carbolic soap, and afterwards thoroughly dried, after which the pomade should be applied.

*Scurvy* is a disease which now fortunately is very little met with, thanks to the fact that it is not essential to lay in a stock of salted meats to the same extent that was necessary in olden times, and also to the fact that vegetables can be preserved in such a way as to retain all the peculiar qualities which they possess in the fresh condition. The human frame requires the daily employment of vegetables as an article of diet, otherwise the blood becomes deteriorated and its health interfered with. It is therefore essential that fresh vegetables as well as fresh meat should enter into the dietary of every individual, or the blood will become deteriorated and its vitality reduced. In by-gone days, when long voyages were undertaken, such dietetic arrangements could not possibly be made, in consequence of the lack of knowledge which now happily we possess, and therefore scurvy was a disease very largely prevalent amongst sailors, whereas now it is a disease which is very little heard of; and I question very much whether any young practitioner has ever come across an example of this painful affection, which at one time was one of daily occurrence. The treatment of scurvy, when it does exist, consists in the frequent administration of lime or lemon juice, which substances go to supply the deficiency which

exists within the blood ; and it is a well-known fact that, with a view of avoiding the occurrence of scurvy amongst sailors, the Government insisted that a certain supply of these vegetable juices should accompany them upon each voyage, so that they might by this means be provided with a substitute which the absence of fresh vegetables necessitated them to partake of, with a view of preserving them from this painful disorder. The symptoms of scurvy generally manifest themselves first in the gums, which become spongy and have a great tendency to bleed ; frequently this proceeds to such an extent as to loosen the teeth, which drop from their sockets. These symptoms are generally followed by an ulcerated condition of certain portions of the skin, especially that of the legs, which is difficult to heal even after the cause of the ulcer has been entirely removed. The bones are also liable to become affected ; in fact, the disease culminates in a general unhealthy condition of the blood, which has affected all the tissues to a greater or less degree. It is a matter for thankfulness that nowadays this painful disease has been almost entirely eradicated, in consequence of the precautions which are taken to preserve the health of sailors by supplying them with an abundance of fresh and wholesome nourishment, instead of the rubbish that was at one time deemed sufficient for their wants.

*Scybalæ* are hard lumps of fæces which result from the absorption of the liquids from these accumulations within the lower bowel. The presence of scybalæ is always more or less injurious, partly because they obstruct the passage of the bowels, and also because of the irritation which they give rise to in the nervous system. The presence of scybalæ in children frequently induces high fever (especially at night), a lethargic condition of the system, and not unfrequently may be the cause of convulsions.

*Sea and Sea-air.* A change to the seaside, in consequence of the invigorating properties possessed by the

atmosphere, frequently produces the most beneficial effect upon an individual. The effect of a change to the seaside is that of a stimulant and tonic, while in oppressive weather the cool and balmy breezes, which pass over the land in the neighbourhood of the sea, are not only refreshing, but highly beneficial to those who may be convalescent from disease. It is a fact, however, worthy of note that the sea-air of certain districts is so largely charged with moisture as to prevent its being of any value as a restorative agent, but on the contrary may aggravate certain diseases, such as rheumatism and neuralgia. This peculiarity of seaside places is particularly noticeable on the west coast of Scotland, especially in the estuary of the Clyde. This is due to the fact of the gulf stream causing evaporation to go on to a large extent in the immediate neighbourhood of the coast ; and as westerly winds usually prevail during summer, these are carried up the Firth of Clyde and render the atmosphere very humid.

*Sea-bathing* is more a luxury than a medicinal agent, although doubtless in many instances it possesses slight tonic effects upon the skin and muscles when swimming is also engaged in, as no better form of gymnastics exists than swimming. It should always be made a rule, when sea-bathing is indulged in, to come out of the water long before the temperature of the body has been so far reduced as to interfere with a healthy reaction.

*Sea-water* contains many constituents which are highly advantageous when it is employed as a bath. Amongst these constituents are—chloride of sodium or common salt, sulphate of magnesia or Epsom salts, sulphate of soda or Glauber salts, and chloride of magnesia, muriate of calcium, iodides and bromides of sodium and potassium, etc. In consequence of these salts being held in solution in the sea its specific gravity is very much increased. Its buoyancy is therefore greater and the tendency to reduce the specific gravity of the blood is to a large extent done away with,

whereas if a person is immersed in pure water an enervating result follows in consequence of the blood becoming thin by absorption of the water and by parting with a portion of its soluble contents. Sea-water, in consequence of the salts it contains, would act as a purgative if taken in large quantities. It is also very usefully employed as an enema, as a uterine douche, and in warm and tepid spray, shower, and douche baths. Tidman's sea-salt is supposed to be simply sea-water evaporated down to crystallisation, and when dissolved in ordinary water may be substituted for sea-water when a bath of this nature is required.

*Sea-sickness*, as is well known, is one of the most disagreeable forms of sickness that can possibly exist. It may continue to such an extent, as the author has seen it on one occasion, as to end in death. In any case, when it is persistent, it has a debilitating effect for the time being, although afterwards it is generally followed by an enormous appetite, a good digestion, and a speedy making up of the tissues which have been wasted. One of the best preventatives against sea-sickness is to support the abdominal walls and those of the chest with a stout, firmly fixed bandage. At the same time very particular attention should be paid to the daily emptying of the bowels. Amongst the medicines which have been recommended for sea-sickness, and which have proved very serviceable, are—phenacetine in 10-grain doses, bromide of potassium in 30-grain doses, chloral in 15-grain doses, and other substances of less utility. The great point, however, is to have the organs of the chest and abdomen kept as fixed as possible until the nervous system gets accustomed to the motion of the vessel.

*Seasons* have a most important effect upon the health of mankind. The seasons vary so much in different countries that it must be apparent to any observer what the consequences of the climatic changes which take place at different periods of the year are. It does not appear, however, that a variable climate such as that of Great Britain tends

to shorten life, but rather it would seem to be conducive to longevity. Possibly, however, this is due to the fact that greater care is taken in the matter of clothing, ventilation, and general hygiene, than in climates where the changes of temperature can be calculated upon to a nicety. In this country, doubtless, the winter months are most trying to the health, and have a larger death rate than summer, whereas in some of the continental countries the death rate would appear to be higher in summer than it is in winter. It may be that local causes have something to do with this, and certainly if sanitary measures are not carried out very strictly in those climates where the weather is intensely hot during summer this must aid very much in the development of disease and consequent fatalities.

*Sebaceous.* The sebaceous glands or follicles are those minute glands situated in the skin which secrete the oleaginous matter which keeps the skin moist and elastic. They are most common on the face and nose, and are larger in dimensions in that locality than in any other portion of the integument. Comedones, or what are popularly called shilcorns, which are indicated by black points upon the nose especially, are the orifices of these glands, upon the sebaceous matter of which the carbonaceous matter of the atmosphere has become deposited and fixed. When they are squeezed a yellowish matter exudes, which is the contents of these sebaceous follicles. When these follicles become inflamed they give rise to reddish pimples, which are called "acne." The proper way to keep the sebaceous glands in a healthy state of action is by washing the face with warm water and soap, and afterwards using a considerable amount of friction in drying. If, however, these glands have become diseased and acne is produced, an application of the following lotion every night at bed-time will prove very beneficial :—One drachm of flowers of sulphur, two ounces of rectified spirits, one ounce glycerine, and five ounces of Elder-flower water. The lotion to be

well shaken before the application is made. *See Acne and Skin.*

*Secretion.* This term is applied both to vegetables and animals, and it signifies the powers which the several organs have of separating certain substances from the circulation, such as the saliva which the salivary glands secrete, the gastric juice which the glands of the stomach secrete, the bile which the liver secretes, and so on.

*Secundines* is the term applied to the after-birth and membranes which come away after the birth of the child.

*Sedatives* are medicines which restrain the activity of the various functions, and at the same time remove sensibility to pain. It is quite evident that sedatives act entirely through the nervous system, their first effects being upon the nerves, and through these influencing the various secretions. Sedatives may be either local or general in their action ; e.g., menthol, chloroform, belladonna, opium, ice, etc., may act locally if applied to a limited portion of the integument. If taken internally they then act as sedatives to the body at large.

*Sedentary Occupation* should always be alternated by a fair amount of exercise, otherwise the bodily health will certainly suffer by a too prolonged confinement within doors, in consequence of the depressing effect of this upon the vital functions.

*Seidlitz* is a well-known Bohemian spa, possessing excellent aperient properties, in consequence of the presence of sulphate of magnesia within the water. There is said to be 100 grains of this substance in every pint of water issuing from the spa.

*Seidlitz Powders*, which are supposed to be an imitation of this water, are composed of Rochelle salt or the tartrate of potash, together with bi-carbonate of soda and tartaric acid to produce effervescence.

*Seltzer Water* is distinguished by the large amount of carbonic acid which it contains in combination with car-

bonate of soda, carbonate of magnesia, and a small proportion of lime. The soda salt, however, predominates, and it also contains a small amount of chloride of sodium or common salt. It is now manufactured largely artificially, and is a popular effervescent drink.

*Semola* and *Semolina* both belong to the farinaceous class. *Semola* is deprived of most of its starch by washing in water, while the latter consists of the hard particles of wheat which escape being reduced to powder by the mill stones, and consequently do not pass through the flour sieves. *Semolina* can only be prepared from the hard grain varieties of Italy, Spain, and Southern Russia. It contains a large amount of flesh-forming material, and is an excellent food for children and invalids. It possesses many of the qualities of animal food, and in consequence of this is to be highly recommended as an article of diet.

*Sending for the Doctor* should be attended to with as little delay as possible, as disease can always be more readily overcome in its early stages than if it is allowed to proceed to any length before treatment is commenced. It should always be the object of the patient to give the doctor information as early in the day as possible when he is required, so that he may be able to economise his time to the greatest extent, and not be compelled to travel over the same ground more frequently than is necessary. A great many thoughtless people put off till they can do so no longer, and usually their fears come to a point when evening, or even night, is far advanced. These fears, perhaps, may be aggravated by the fact that disease generally assumes a much more formidable appearance at night than it does in the morning. Then again, if the disease is not showing any very alarming symptoms, the patient, or the patient's friends, should not demand an immediate visit; on the other hand, if the symptoms are alarming, urgency should always be indicated by a special message. A great many people, especially those of a timid and nervous tem-

perament, become alarmed at very little, and attach to symptoms a meaning which they should never possess. Such people are very liable to be left in the lurch some day or other, for if the doctor has been repeatedly summoned to such patients, and found upon his arrival that there is little or nothing the matter, he will be very apt to take for granted that this may invariably be the case, and thus not attend so promptly as otherwise he would have done when serious disease may have manifested itself.

*Senna.* The medicinal part of the senna plant is the leaf. It is one of the most useful purgatives that we possess, and has been used by the Arabians as such for a very long period of time. The plant grows abundantly in the northern portions of Africa and India. That grown in Northern Africa commands the best price, and is preferable to all others. Senna, when infused in cold water for twelve hours, yields all its purgative properties without any of the extractive matter entering into the infusion ; and if this method of preparing senna as a purgative be adopted it acts quite as efficiently as if it had been infused with boiling water, and it has not the nauseous taste which the latter method produces, nor does it give rise to the griping effects which an infusion of hot water always does. The old black draught, which is composed of a decoction of senna combined with Epsom salts and ginger, is a most nauseous medicine, and always produces griping to a greater or less extent. A very excellent preparation of senna, which is specially applicable to children, is the sweet essence, as it is easily taken and acts most beneficially. It is not generally known that cold water extracts the purgative properties of the senna leaf, and from the fact that this method of extracting the essential constituent of the leaf does away with griping it should be generally adopted. Powdered senna leaves mixed with powdered liquorice root and carminative substances is sold under the name of compound liquorice powder, or Prussian powder. This substance

likewise acts without producing any griping effects. Powdered senna leaves are also made into a kind of electuary by rubbing up the senna leaves with treacle. This is called the confection of senna, and is also a useful method of administering the medicine. Senna seems to act almost certainly upon the colon, or large bowel, and therefore is specially useful in habitual constipation, as it may be taken at frequent intervals without aggravating the tendency to constipation.

*Serous Membranes* are those which envelop and enclose the cavities of the chest, abdomen, skull, spinal column, and joints. It is a semi-transparent, smooth membrane of considerable elasticity and tenacity, which secretes a lubricating fluid, and this enables the parts to move over each other freely and without friction. When inflammation of this membrane takes place the surface becomes roughened, and friction of the inflamed surfaces is productive of considerable lancinating and acute pain, while an excess of the serous fluid is secreted, and is productive of dropsy of the various cavities where the disease exists.

*Serpent Bites.* See Snake Bites.

*Serum* is the watery portion of the blood, or liquor sanguinis, and is that which is left on the formation of a clot in the process of coagulation of the blood. In a scald, burn, or blister, the fluid which accumulates underneath the cuticle is serum, and exudes from the mucous coat of the skin on the destruction by the irritant of the cuticular layer. The liquor sanguinis, or serum, holding the fibrine of the blood in solution is the liquid portion of the blood which holds in suspension the red and white corpuscles, and in solution certain salts of potash, soda, lime, and iron.

*Seton* is one of the most powerful methods of obtaining counter-irritation. It is produced by lifting up a fold of the skin and passing a seton knife, threaded at its distal end with a piece of tape, through the wound, and allowing it to remain in with a view of keeping up irritation and

suppuration at the point through which the tape passes through the skin. Suppuration invariably takes place within the wound, and means should be adopted for catching the discharge by the application of a dressing of lint. Setons are usually introduced at the nape of the neck to counteract some irritation within the cranium. At the present time, however, the employment of setons for this purpose is not nearly so popular as it was some years ago.

*Sewer* and *Sewage* are one of the great problems of the age. Had it not been for sewage a great number of diseases, which at the present moment exert a most pernicious influence upon the inhabitants of districts where sewers are in a defective condition, would never have been heard of. Amongst these may be classed cholera, typhoid fever, and many of the zymotic diseases which permeate the sewers and find access to dwelling-houses in this way.

*Sex.* It is a superfluity in a work of this kind to dwell for any length of time upon sex; sufficient it is to say that, as a rule, in every branch of the animal kingdom the female sex predominates, though by some it is made out that the male sex is greater in number than the female; and that, in consequence of the greater difficulty of rearing males than females, the female at the last is in greater number than the male.

*Shampooing* is by many confounded with the system of massage, which has proved so useful in the treatment of certain diseases, and especially those which have a nervous origin. Shampooing is rubbing; massage is a mechanical manipulation of certain parts, which has a beneficial effect not only because these parts are brought into active exercise, but because they are acted upon by a scientific process. Massage, in short, brings every muscle into its normal condition of activity, while shampooing is only a rubbing of these muscles, which may or may not excite the action as it is desired.

*Shell-Fish* as a rule are indigestible, and in some cases are poisonous, in consequence of their having imbibed a poisonous material that may have been contained in the water from which they have derived nourishment. This is specially the case with the mussel, which may contain copper, and thus convey its poisonous properties to those partaking of it. When bad effects are experienced after the partaking of shell-fish, the best curative agent to employ is an emetic followed afterwards by a purgative, so as to clear away the offending matter as rapidly as possible.

*Sherry*, although by many esteemed a wholesome drink, is at the same time one of the most difficult to procure in a condition which may be considered perfect as a beverage, as it is so frequently made up of a mixture of a variety of wines which have neither character nor history. To obtain sherry in a wholesome and sound condition it should be purchased from a merchant whose honesty is beyond dispute, as it is one of those wines which can be adulterated to an extraordinary extent without possible detection by an ordinary individual.

*Shingles* is a peculiar disease of the skin due to an inflamed condition of the peripheries of the nerves which supply the area of the affected part. Technically it is termed herpes zona or zoster. This particular form of herpes is situated upon the trunk of the body. When herpes attacks the lips, cheek, or any other part of the body than that of the trunk, it is named herpes labialis, which indicates herpes of the lip, or other designation according to the particular region which it attacks. As a rule shingles indicates a lowered condition of the vitality of the individual attacked, and like neuralgia is more a symptom of disease than actual disease itself, although, from the fact that an eruption is coincident with its development, it is classed as a disease. When the eruption manifests itself it is always accompanied by considerable

pain, and invariably occupies a region supplied by a particular nerve. At first the vesicles are full of clear serum, which, as time progresses, become transformed into an opaque liquid, and afterwards dry up into a crust, and thereafter separate like an ordinary scab. As shingles is due to an inflammatory condition at the very extremities of the nerves supplying the skin of the particular region affected, it not unfrequently happens that even after the disease has disappeared considerable pain is experienced in the part which has been affected. When this is the case it may be necessary to apply anodynes of considerable power to destroy the sensibility of the part, such as veratrium, morphia, aconite, menthol, or chloroform. A good ointment to rub in under such circumstances is composed of 6 grains of morphia, 6 grains of veratrium, and half an ounce of vaseline, mixed together—a piece the size of a split-pea to be well rubbed in night and morning. Another good application is made up of three drachms of menthol, half an ounce of chloroform, one ounce and a half of belladonna liniment—a little of which should be rubbed in night and morning, or as often as the pain is severe. In every instance where shingles exist they should be treated by an abundance of good, wholesome, and nutritious food, accompanied by stimulants if the system is reduced to any great extent; while the bowels should be carefully attended to, the vesicles protected so as to prevent them bursting and laying bare the irritated extremity of the nerve upon which they are situated, and thus obviating a troublesome ulceration which may follow such an accident. At the same time the patient should be well clad and every protection taken against exposure to damp and cold, these being exceptionally hurtful where the system is in such a susceptible condition, as far as the nervous apparatus is concerned.

*Shivering* is a symptom which frequently indicates the onset of some febrile disturbance. Its technical term is

rigor. It is very frequently the first indication of some inflammatory or febrile condition which threatens the system. When shivering exists the individual experiences the sensation of extreme cold, so that the limbs shake and the teeth chatter in a most extraordinary manner, and any one looking at one in this condition would naturally suppose that he was suffering from a reduced condition of the animal temperature. If, however, the thermometer be introduced, either under the armpit or into the mouth when this shivering is present, it will be ascertained that actually the bodily temperature is very much above the normal, and indicates a considerable amount of fever. It is therefore desirable, when this symptom of fever is present, to take measures which shall promote a free action of the skin and at the same time reduce the temperature of the body. With this view the patient should be put to bed and warm gruels administered, together with 10 grains of phenacetine, which medicine may be repeated every four hours till the temperature of the body is reduced.

*Shock* is that depressing effect upon the nervous apparatus which is produced either by some distressing news or other influence which affects the nervous system independent of the body, or by direct violence to the tissues by accident or otherwise. The extent of a shock depends entirely upon the impression which has been conveyed by its effect, either upon the mind or physique of the individual. In every case, however, it is the nervous system which receives the impression, and it must always be attributed to the ultimate effect upon this portion of the animal economy. When nervous shock exists it is indicated by a slow and feeble pulse, combined with a collapsed condition of the exterior of the body, and threatening death from positive weakness. The means to take, therefore, to remove these conditions should invariably consist in the application of external heat, and the administration

of stimulants, such as sal-volatile, brandy, whisky, or ether, and afterwards in the free administration of beef juice and other stimulating fluids. If there has been much loss of blood connected with an accident, which of course will render the shock more permanent, it may be necessary to have recourse to transfusion, which is the introduction of blood obtained from a healthy individual who can afford to part with some of his blood, and thus directly supply the deficiency which has resulted from the loss of the vital fluid sustained by the injured person. It is a remarkable fact, however, that where a severe injury has occurred, and shock in consequence is the result, that if the patient be placed under chloroform, with a view to having the shattered limb removed or the injured tissue repaired, the shock will pass off during the period that the patient is under chloroform, and this possibly may not return after the operation has been completed. In olden times it was always thought necessary to allow reaction to set in before any operation was undertaken. Now, however, thanks to chloroform, such an idea is entirely exploded.

*Short Sight* is entirely due to a malformed condition of the cornea, and, as it invariably is, to say the least of it, an inconvenience, should be placed under medical supervision.

*Shoulder.* The shoulder is one of the most important joints of the whole body. It is composed of the muscles and soft parts surrounding the joint, together with the bones, the joint, the shoulder-blade, and a portion of the collar-bone. Altogether, the parts entering into the constitution of the shoulder are beautifully moulded and splendidly adapted to the purposes for which they are ordained. The shoulder-joint is not at all difficult of displacement, but fortunately such a displacement is easy of reduction if it is properly manipulated. It may be necessary, if the joint has been out for a considerable time, to have recourse to chloroform to relax the muscles, which invariably become very much contracted if reaction has

existed for any length of time. If, however, chloroform is administered the muscles immediately relax, and the joint is very readily placed in its normal anatomical position.

*Sialagogues* are medicines which increase the secretion of the saliva. Everything which has an aromatic taste, if chewed, will produce a freer flow of saliva, so also will the appearance and flavour of a good dinner. Some of the most popular sialagogues which were employed in olden times were one or other of the aromatic roots.

*Sickness* is the term which at one time was entirely confined to an inclination to vomit, or vomiting itself. Now, however, it is a general term applied to the condition of one who is suffering from illness of almost any description. *Refer to Vomiting.*

*Sickness, Sea.* *Refer to Sea-Sickness.*

*Side.* Pain in the side may arise from very various causes, and may indicate ailments from a very slight to a very serious importance. If the pain is intensified by breathing, especially taking a long breath, then suspicions should be aroused in case this may be due to some inflammatory affection of the pleura. If the pleura is affected it will invariably give rise to a febrile condition of the system, and at the same time a friction sound will be heard if the stethoscope is placed over the seat of pain. If, on the other hand, the pain is not accompanied by fever, but rather by a lowered condition of the system at large, the probability is that it is of a neuralgic character, and is then called pleurodynia. This pain is frequently erroneously termed pleuritic, and many ignorant persons are apt to designate it pleurisy or inflammation of the pleura. It is needless to say that when the affection is neuralgic there is no danger connected with it, whereas if it is pleuritic considerable danger may exist, and the treatment of the one is so different from the treatment of the other that it becomes a matter of great importance to differentiate between the two. If the pain is on the right

side and low down it may be due to some affection of the liver, or to muscular rheumatism or neuralgia of the part. Pain on the left side again is usually associated with a distended condition of the stomach. In females, however, a pain in the side carries with it considerable importance according to its position, especially if it is seated low down near the groin, when it generally indicates some ovarian irritation.

*Sight.* Too much importance cannot be attached to this valuable sense, and every precaution should be taken for its preservation. If there is the slightest deviation from the healthy standard an oculist should immediately be consulted and his advice carefully followed.

*Silk* is frequently worn in place of woollen underclothing, in consequence of the latter causing irritation of the skin. Woven silk is a fairly good substitute for flannel, and may under the above circumstance take its place.

*Silver* is used in medicine principally in the form of nitrate of silver, or lunar caustic. It is also employed as the oxide of silver in certain forms of dyspepsia, but it is not a very popular remedy. The nitrate, besides being employed as a caustic, is also used dissolved in water as an application in ophthalmia and certain affections of the mucous membrane, when it appears to act as a stimulant and at the same time an antiseptic. The usual strength of the lotion, when employed in this way, is—5 grains of the nitrate of silver to 1 ounce of distilled water. All the salts of silver possess most powerful antiseptic properties, and in recent years have entered largely into the surgeon's pharmacopœia.

*Sinapism* is another name for mustard plaster. See Mustard, Counter-irritation.

*Sinapine* is supposed to be the acting principle of mustard, and is frequently employed as a counter-irritant, when it is spread upon paper. It is a clean and efficient method of employing counter-irritation, but the pain it

produces is so much greater than that which an ordinary mustard poultice produces, and the soothing effect of the heat being absent, the latter is to be preferred.

*Sinking Sensation at the Pit of the Stomach* is due to the effects of indigestion, grief, or nervous depression from some cause or other acting upon the large sympathetic nerves, which are situated behind the stomach. Stimulants are naturally craved for under such circumstances, but they should be avoided, as their effects are only temporary and will be followed by greater depression when the stimulation has passed away. The great point is to remove the actual cause by treating the stomach for the indigestion, and the source of the nervous depression by local or constitutional treatment.

*Sinus*, in anatomy, is a depression or cavity. In surgery, however, it has another meaning altogether, and consists in an opening leading generally from an abscess to the outer surface of the skin, from which exudes the pus, generally of an acrid character. Not unfrequently the cause of a sinus exuding pus is a piece of diseased bone, and until this is removed the sinus will continue to exist. Sinuses may be frequently observed on the necks of scrofulous people, and these are the cause, as a rule, of scars, which so frequently disfigure individuals who have suffered in their youth from abscesses in the parotid glands.

*Skeleton.* This term is applied, as is well known, to the bones which form the foundation of the human frame, and are composed as follows:—(1) The bones of the skull and face, the former having eight and the latter fourteen, entering into the formation of the skeleton of the head. (2) The spinal column, which is composed of twenty-four bones, somewhat of a circular or disc-like formation attached to each other by a ligamentous structure, while a strong elastic cartilaginous substance forms a cushion upon which each bone rests upon its neighbour; the spine supports the head and trunk of the body, and is inserted into the pelvis

at the sacrum, which *see*. (3) The collar-bones and shoulder-blades support the arms in their respective places. (4) The ribs, which are twenty-four in number, are made up of seven pairs of true ribs, which are attached to the sternum or breast-bone by means of cartilage, while the five remaining pairs of ribs are termed floating ribs, having no attachment in front, but yet giving support to the abdominal walls. (5) The breast-bone. (6) The bones of the arm, named the humerus, those of the fore-arm—viz., the tibia and radius; the wrist or carpal bones; the palm and finger bones, or metacarpal bones. (7) The bones of the pelvis, comprising the two bones which are made up as indicated in the article on pelvis, which *see*. The sacrum and coxa also enter into the formation of the pelvis. (8) The bones of the lower limb are composed of the thigh-bone, the knee-cap, the tibia, and fibula, together with the ankle or tarsal bones, and the metatarsal bones, forming the arch of the foot and the toes. Besides the bones of the skeleton proper there are others of the body, such as the ossicles of the ear, and the hyoid bone, which is placed at the root of the tongue, besides adventitious growths of bone on tendons, which, however, are not in every case present.

*Skin.* The skin is one of the most wonderful structures of the human body, and is essential to its life. As is well known, it acts as a covering to the body, and protects and retains in their various places the different tissues subjacent to it, as well as forming an elastic and strong envelope to the frame. It consists of two distinct membranes—viz., that of the epidermis or cuticle, which is the outer covering of the underlying layer or true skin. The skin is continuous with the mucous membrane of the various passages, such as the mouth, nose, anus, etc. The epidermis consists of a thin, transparent, horny membrane, which is very similar in its structure and uses to the outer layer of the mucous membrane. It is composed of a layer of cells

called epithelial cells. These are flat on the outermost surface, and overlap each other so as to form a complete covering. Those that are exposed to the atmosphere are comparatively hard, and are more flattened than those which lie immediately underneath. The undermost layers of the epithelial are softer and moister in their structure, and were at one time supposed to constitute another layer of the skin, which was termed "rete mucosum." In the epithelial structure of the skin the pigment cells exist, these cells containing the colouring matter which gives the varied hues to the skin of different races, being most distinctly exemplified in the negro. Freckles are a development of an excess of pigment in these pigment cells. The outer or flattened layer of the epithelial cells which overlap each other and form the horny covering of the skin are constantly being removed in the process of friction or washing, but they are replaced by those lying immediately underneath. The effects of a blister, scald, or burn destroy the vitality of the epithelial layer, when this rises up by the effusion of fluid underneath. It, however, is soon replaced again on the removal of the irritant. As is well known, the epithelial layer of the skin is entirely devoid of sensation, which fact may be demonstrated by introducing a pin and raising a portion of it up by this means, when it will be found that no pain is produced. It is a well-known fact that this layer of the skin varies very much in thickness, always being denser on those points where the greatest amount of pressure is brought to bear; hence it is stronger and more dense at the heel, and on the hands of those who have a great deal of manual labour to perform. It also varies considerably according to age, the skin of the infant being very much softer and more elastic than that of elderly persons. The true skin, which lies underneath the cuticle, is very much thicker, and consists largely of connective tissue whose fibres interlace and enclose the blood-vessels, nerves, and glands, which

are essential to the structure of the skin. From the fact of the nerves and blood-vessels ramifying in this structure it is extremely sensitive, and requires for its protection the covering of the cuticle. An erosion of the skin is invariably excessively painful to the touch, and there are few people who have not been able to demonstrate this at one time or other. At the surface of the true skin will be found innumerable little eminences, or papillæ, as they are technically called, upon which the nerves of sensation are distributed. These are distributed most profusely on the point of the fingers, where sensation to touch is most acute. The skin varies very much in sensibility, this being accounted for according to the nerve supply of the various portions. The deeper layer of the true skin is composed of fibres, which form a network with which are mingled elastic fibres and muscles. These minute muscles which ramify through the skin are attached to the hair bulbs, and have the power of contraction or expansion just as any other muscular fibre has. This is readily demonstrated by the little eminences which are raised upon the skin during exposure to cold, and which go under the name of goose skin, this being due entirely to the contraction of the minute muscles inserted into the hair follicles. It is in consequence of the contraction of these muscles that the hair of different animals is enabled to become erect, as is seen in the cat when its hair is said to stand on end. Besides being a protective covering to the body, the skin has other duties to perform—viz., those of a secreting membrane, by which office it is enabled to preserve the heat of the body at a certain temperature. Throughout the whole structure of the skin exist innumerable glands which secrete sweat, and these by radiation enable the skin to throw off an enormous amount of heat, or on the contrary to restrain their secretion and thus preserve the heat of the body. This is well exemplified in the Turkish bath, where an individual may exist and be

benefited by exposure to a heat which would otherwise prove very injurious—*e.g.*, a man may enter into a room, the temperature of which is above that of boiling water, and remain there for a considerable period, notwithstanding the fact that if such a heat did not excite the action of the sweat glands of the body and drain from its surface an immense amount of fluid, scalding must necessarily ensue; but because of the effect of this dry heat upon the secreting powers of these minute glands, the temperature of the body is actually unaltered, although surrounded by an atmosphere of such intense warmth. The sweat glands do not only secrete water, but separate from the blood certain impurities, and assist very materially the action of the kidneys in their important function. Were it not for the action of these minute glands the heat of certain climates would be quite inconsistent with the preservation of health. In cold climates their powers are restrained, so that they are enabled by the circumstances in which they are placed to retain the body at an equable temperature. Besides the sweat glands there are the sebaceous glands, which have already been referred to. These secrete a fluid of an oleaginous nature which tends to keep the skin moist, soft, and elastic. The skin, as is well known, contains, besides those glandular apparatus, blood-vessels and nerves in very large quantities, and besides these there are absorbent vessels. The latter, probably, are more venous than anything else in their nature. Some curious calculations have been made with reference to the number of the sebaceous and sweat glands contained in the skin. As many as 3500 have been counted upon the square inch, so that some conception may be formed of the immense service which these little organs perform. As is well known, the skin is subject to various diseases—these may affect either the nerves, the blood-vessels, the glands, or the tissues of the skin itself. When the skin is affected, it is generally the outcome of some disease of the blood

acting upon this membrane; indeed, it would appear that every affection of the skin is dependent upon the blood entirely for its existence. Amongst the affections of the skin with which we are most familiar are—eczema, psoriasis, pityriasis, elephantiasis, leprosy, etc.; while amongst the acute affections which attack the skin are those which are entirely due to its efforts to get quit of various blood poisons, such as small-pox, scarlet fever, measles, erysipelas, furunculus, etc. *See* special articles on each of these diseases. If the skin is destroyed in its entirety it never becomes replaced, but the interval between is made up by the formation of an adventitious tissue called a cicatrix. This is devoid of the elasticity of the skin, and so tends to contract. This may be demonstrated when anyone has been so unfortunate as to have the entire structure of the skin destroyed by burns or severe scalds, by the formation of cicatrices, or what are popularly called scars, these frequently producing deformities by their tendency to contract. This is specially noticeable when such accidents have occurred upon the neck or face, or near a joint.

*Skull.* The skull is the bony cavity which contains the brain, and forms the foundation of the face, mouth, ear, and the important organs of smell, taste, hearing, and vision. The skull in the new-born infant is composed of various bones which consolidate into a uniform mass in advancing years. These bones in the infant are united together by serrated margins called "sutures," which in the process of parturition are enabled to overlap each other, so as to permit of the passage of the head with the least difficulty to the soft parts of the mother. That suture which forms the junction between the frontal bone, or the bone of the forehead, with the two side bones, called "parietal," is named the transverse suture. Where the parietal bones are joined to the temporal or temple bones, the suture is different, this being formed by the thin margin of the temple bones overlapping the edge of the parietal.

Altogether, the bones are so arranged as to give the greatest amount of strength for the protection of the brain, and represent very much in their formation the structure of an arch, so that immense weight can be brought to bear upon the exterior without injury being conveyed to the contents of the cranium. Within the cranium or skull the brain with all its ramifications of blood-vessels and nerves is contained, and is preserved from injury by the bony covering which has been provided for its safety. The skull is provided with various apertures, such as that of the spinal cord, which is situated at its base, and those at its anterior aspect for the passage of the optic nerve, with the blood-vessels, also the nares and mouth; while numerous smaller openings exist for the transmission of the blood-vessels and nerves supplying the brain itself and the tissues in its immediate neighbourhood. The interior surface of the skull is variously grooved for the accommodation of blood-vessels which are concerned in the circulation of the head. To the cranium or skull proper is articulated the lower jaw, which, as is well known, is hinged to the upper jaw, upon the movements of which mastication and speech are so dependent. The bones of the skull, like the bones of the body at large, are covered by a membrane named the periosteum, or, as it is termed in this instance, the pericranium, while the inner surface is covered by the dura mater or endocranum. The scalp is that dense skin from which the hair takes its growth, and which is loosely attached by connective tissue to the periosteum or pericranium. *See Brain, Skeleton, etc.*

*Sleep*, as the poet has designated it, "Nature's sweet restorer," is one of those psychological conditions which seem to constitute a link between life and death. The actual condition of sleep, however, appears to be a phenomenon which is most difficult of explanation. If sleep is sound and undisturbed the whole sensory functions of the body would appear to be in complete abeyance, while the

animal organism continues to perform its various functions with renewed vigour. It is, in short, complete rest from mental and nervous activity, and by it the whole functions recover from the fatigue which they have been undergoing, and the system at large seems to accumulate fresh vigour and energy for the work it has to perform. The condition of sleep may be described as a period of unconsciousness so far as the motor and sensory powers are concerned, and in which the organic functions relating to nutrition, circulation, and respiration concentrate all the powers of the economy in the performance of their various duties. In this condition the various functions which are essential to life seem to become refreshed and their activity invigorated, while the muscles and thinking powers, in consequence of their nutrition being increased at the same time that their energies are not called into play, regain strength, vitality, and power, which had been previously impoverished by the fatigue which they had undergone. It is difficult to explain what is the actual physiological condition of the brain and of the sympathetic nerves during the epoch of sleep. It would appear, however, from analogy and from inference that they are not in a state of anaemia, as has so often been supposed, but rather that their blood supply is quite as copious as during the period of wakefulness, and that the brain is absorbing more actively the contents of the blood peculiarly adapted to its own particular requirements, and thus laying in a store for the expenditure which it will be called upon to make in the hours succeeding the repose which it has been indulging in. It has been stated that sleep is the consequence of exhaustion of the usual nervous stimulant which has been exercised in waking hours. Would it not be very much more natural to suppose that sleep is very much of the same nature as hunger, and that the nervous apparatus requires food to enable it to recuperate itself after a considerable fast? Sleep, in short, seems to act much in the same way upon the nervous

system as food does to the physical frame, or rest does to the fatigued body ; the first and last, however, taking advantage of the functions of digestion and assimilation, and abstracting from these the portions of nourishment which are essential to the requirements of their different structures and in their recuperation from the fatigue which they have undergone. It seems to be beyond doubt that the nervous and muscular systems take advantage of rest and sleep to enable them to devote their powers to the absorption of nourishment, as it is impossible for them to attend to their own requirements during the periods in which they are in action and under the control of the will of the individual. Sleep, however, or what corresponds to sleep, may be the result of circumstances quite independent of fatigue. It may, in fact, supervene upon exposure to intense cold, or to the action of certain drugs which obliterate the sensations, but which at the same time destroy their power of taking the full advantage which natural sleep enables them to do—viz., the absorption of nourishment to provide for their future requirements and for their invigoration ; hence such sleeps are liable to end in death if the causes which have produced them are sufficiently energetic, or if proper measures have not been adopted to avert the fatal consequences. Thus, we know that exposure to severe cold produces a drowsiness by paralysing the nervous system ; also that drugs, such as opium and other narcotics, produce a similar effect if the dose has been sufficiently large, or if the vital powers are not sustained or excited by proper remedies until the effects of the poison have passed away. Many substances have been brought into use with a view of inducing sleep when nature's efforts have been unavailing, or when the nervous excitement present has frustrated these efforts. The most useful of these agents is sulphonal, which seems to act in such a manner as to render the nervous system oblivious to the conditions which preclude sleep, and thus

enable nature to step in and supply the want for which she is so desirous. The sleep thus produced, although probably artificial at first, seems to merge into natural slumber, and thus the bodily requirements are supplied, the energies of the individual resuscitated, and the body refreshed. Other substances, such as chloral, chloralamid, bromidium, etc., have also some considerable reputation in sleeplessness, yet they do not seem to possess the beneficial effects which sulphonal undoubtedly does. The amount of sleep varies very much—the infant requiring the most; indeed, its life should be made up pretty much by sleeping and drinking during the first six or eight months of its existence. As time advances, however, the time necessary for refreshment by sleep becomes gradually less—the adult requirements being from six to eight hours, but many indulge in a longer period of rest. Six hours, however, may be considered quite sufficient for anyone in active exercise and good health, but there is a kind of enjoyment in the indulgence of sleep which is very liable to be taken advantage of and made the excuse for a longer period in bed than is actually necessary. It is of great import that an individual whose mind and body are actively engaged can take advantage of snatches of repose at any convenient time, and many men whose brains have been the most active have possessed this peculiar faculty, which has served them in good stead in many emergencies. Amongst these may be mentioned Napoleon, and other generals and admirals who could not take advantage at regular times of indulging in a long period of repose. It is a curious circumstance that sleeplessness is often the effect of a too active and energetic exercise of the mental faculties. The mind seems to be unhinged by the excessive strain which is brought to bear upon it, and in consequence is unable to settle down to the rest which is so essential to it. Over-indulgence in stimulants also, by exciting the nervous apparatus, in many instances destroys the power of sleep,

and hence aggravates the mischief which the poison has already produced. In many instances sleeplessness, when not due to these factors, is caused by an absurd idea that it is wrong to take food before going to bed, whereas if such individuals would indulge in a slight refreshment before retiring they would find that their sleep is not only more refreshing, but also more easily procured, and becomes more lasting if the stomach contains a little light nourishment. Many people who waken at certain hours of the morning, and are unable to fall asleep again, would do well to take a little food, such as the white of an egg switched up with a little milk, or even a drink of milk itself, and they would find that sleep, which before had been courted in vain, would come without any difficulty. Others again who sleep with their mouth open, and therefore necessarily induce a dry condition of the mucous membrane, would, by simply getting out of bed and taking a drink of water, enable sleep to take possession of them, for which probably they had been wishful for a considerable time before adopting this very simple device. Sleep is, however, frequently disturbed by the presence of some foreign matter within the alimentary canal. This is specially the case in children who are troubled with worms, or who are subject to constipation. In these circumstances the sleep is not only interfered with, but actually disturbed by terrible dreams, which may in many instances assume the character of delirium, and this is usually accompanied by a high state of fever, which was in olden times called remittent fever. When this is the case it will be found that an enema composed of a dessert-spoonful of salt dissolved in a breakfast-cupful of warm water, and injected well into the bowel, will have an almost immediate effect in alleviating the painful and alarming symptoms. Somnambulism, or sleep-walking, is a condition of the nervous system brought about by some irritant within the digestive tract, and is almost invariably due to indigestion or a sluggish

condition of the lower bowel. People who are addicted to such a disagreeable and dangerous habit should be particularly attentive not only as to their diet, but to the condition of their digestive organs and to the state of their bowels.

*Slough* is a small portion of dead tissue which is still attached to a living body, and by which, therefore, it has not yet been cast off. It may be the result of injury or strong inflammation of the part, either of which has destroyed the vitality of the tissue affected. To assist in the separation of a slough, and to destroy the offensive odour that invariably is associated with it, it is necessary to wash the affected part well with an antiseptic solution, and afterwards dress it with an antiseptic such as carbolic lotion, bi-chloride of mercury lotion, or cover it over with some substance such as boracic acid, aristol, or iodoform.

*Small-pox* is probably the most loathsome of all the contagious or zymotic diseases which are known in modern times. It is characterised by the most overpowering and distressing premonitory symptoms, being quite unlike in their severity the symptoms appertaining to any other infectious disorder. It commences with a feeling of shivering, lassitude, intense pain and discomfort in the back, together with a sinking sensation at the stomach, severe headache, thirst, and fever. On the third day after the above symptoms have set in and continued, general relief will be experienced, and this is accompanied by the appearance of minute red spots, very much resembling those of the preliminary stage of chicken-pox, over the forehead, neck, wrists, arms, chest, and abdomen, and latterly upon the legs. Such is the course of the eruption which is characteristic of this disorder, the lower extremities being invariably the last affected. The eruption gradually becomes more and more pronounced until each spot attains the character of a vesicle. Frequently, however, the eruption does not permit of the isolation of each vesicle, as

several may appear so closely together as to become confluent—that is to say, running into each other. In such a circumstance the disease is named confluent small-pox. There is one particular characteristic of the pustule of small-pox, and that is, it becomes depressed at its apex, or, as it may be termed, umbilicated, because it somewhat resembles the appearance of the navel. About the sixth or seventh day after the vesicles have reached their maturity—that is to say, after they have attained their full size—their contents become more and more opaque, and latterly purulent, the serum which they had originally contained having been transformed into pus. At this period of the disease—that is, when about the eleventh day, or upon the eighth day after the appearance of the eruption—the disease is said to have matured, which indicates neither more nor less than that decomposition has taken place within the vesicles; then the so-called secondary fever comes on, and the febrile symptoms, which had to a large extent abated before the eruption had reached this stage, become aggravated. At this period of the disorder the greatest danger is to be apprehended, for it is then that death most frequently occurs. Now, it is an extraordinary circumstance that, though this so-called secondary fever is so much dreaded, there should be no necessity at all for its appearance. The author has had a large experience in the treatment of small-pox, and has been the means of instituting a treatment of this loathsome disorder which entirely does away with secondary fever, and therefore reduces the death-rate from small-pox to a very great extent. Not only is the secondary fever by this treatment abrogated, but the course of the disease is at the same time very much modified, while the tendency to pitting is greatly reduced. The treatment consists in the application to every vesicle of a solution, containing one part of carbolic acid to fifteen parts of glycerine, night and morning. By this means the irritation caused by the eruption is alleviated, and the

tendency to itching lessened. Suppuration is also avoided; hence the vesicles disappear without suppuration, and there being no irritation developed no scratching is indulged in, and the skin resumes its normal condition without having undergone destruction at the particular points where the eruption has appeared, which was wont to be the case. In every work upon the symptoms and treatment of small-pox a great deal of stress is laid upon the fact that the chief danger occurs about the time of the secondary fever. This, of course, is due to the development of pus within the vesicles, as there can be no doubt that these vesicles are produced by the efforts of the skin to eliminate the poison which, coming to the surface, produces acute inflammation at these various points; and the germs of the disease being located where this depression of the vitality of the skin has been induced, develop there to a large extent, and make a nidus of the skin wherever opportunity offers. If antiseptics, however, such as carbolic acid, are applied to the surface of the skin where the eruption exists, the vitality of these germs is destroyed; their virulence therefore is aborted, and the effects of the disease suppressed; in short, no secondary fever ever appears, and the patient sails safely over a crisis which at one time was thought to be inevitable, and in every instance most dangerous. It is a well-known fact that small-pox need hardly ever exist, in consequence of the beneficial effects which vaccination produces; this being evidently due to the fact that vaccine in the cow is identical with small-pox in the human being, just as grease on horses' feet and distemper in dogs are supposed to be due to the same poison. If, therefore, the disease which has been attenuated in the system of the calf is introduced into that of the human being, the effects produced destroy the susceptibility which would otherwise exist. The author has observed on more than one occasion when small-pox was prevalent the effects of the vaccine virus and that of small-pox culminating

almost at the same period within the human system, when invariably the vaccine virus, probably because of the start it had got, has overcome that of small-pox and aborted it—the vaccine coming to a head while the small-pox simultaneously receded and entirely disappeared. As is well known, vaccine disease is not infectious in the human subject, while small-pox is highly so. Again, vaccination is devoid of danger, while small-pox is highly dangerous. It therefore behoves all who have charge of children to insist upon their early vaccination and re-vaccination, if necessary, during the prevalence of the disease in the neighbourhood. The medicines which are usually given in this disorder are those which act as slight aperients and keep the blood pure in this manner, the most valuable of which is Epsom salts, which, given highly diluted with water, forms a grateful and at the same time beneficial purgative. The diet should consist of the most nutritious and easily digested articles, such as an abundance of gruels made up with milk and farinaceous substances, together with chicken soup, drinks of barley water, rice water, or oatmeal and water. *See Vaccination.*

*Smoking*, that is tobacco-smoking, may either produce beneficial or deleterious results. If indulged in in moderation, especially by those whose nervous system is under considerable strain, there is no doubt that smoking is conducive to health, for the simple reason that it produces soothing and restful effects upon the nervous apparatus. If, however, it is indulged in unduly it becomes highly dangerous, as by its constant depressing effect upon the nervous apparatus it interferes with the functions of several of the most important organs of the body, such as the heart, stomach, and eye. In the stomach it gives rise to debility, sickness, and indigestion; in the heart it produces irregular action, and disorders the condition of the muscular tissue; while in the eye it may go to such an extent as actually to produce amaurosis or blindness. It has the

effect in many people of preventing sleep, while in others it would seem to induce it. It invariably affects the mucous membranes, especially that of the throat, which is very liable to become relaxed and the tonsils enlarged, while the mucous secretion of the throat and wind-pipe may be so far interfered with as to produce dryness and irritation; therefore causing in the one case a dry mouth, and in the other an irritable cough. It is a luxury, however, and as such, if kept within proper bounds, can be indulged in without any injury being inflicted upon the constitution. It has been said that the bad effects attributable to tobacco are due to the absorption of nicotine which it contains; and this, strange to say, is stated in books on the subject, the authors of which should have known a great deal better, because, if nicotine did enter the system as these authors would indicate, smoking would very soon become extinct, as it could not possibly be indulged in without producing death in those employing tobacco in this manner. The fact is, that nicotine never enters the mouth, and for this reason, that it becomes decomposed at a temperature much below that at which the combustion of tobacco takes place. The narcotic effects of tobacco would appear to be entirely due to the introduction of the alkaloid called pyridin, and not to that of nicotine, which of course is the most important alkaloid that tobacco possesses. In conclusion, it is only fair to state that tobacco, used moderately, is beneficial to some, while to others it cannot but be injurious, but this will very quickly be experienced by the individual. The great danger in tobacco-smoking is that it is indulged in too freely, and hence its poisonous effects are liable to develop. Anyone suffering from an irregular action of the heart should not indulge in tobacco, at least without consulting his medical attendant upon the subject.

*Smothering*, or Suffocation, is due to the fact that the air which has entered the lungs is not permitted to be

renewed by the inspiration of fresh air, so that carbonic acid, which, as is well known, is a deadly poison, becomes re-inhaled and produces its poisonous effects upon the blood stream.

*Snake Bites* may be comparatively innocuous or rapidly fatal. Venomous snakes insert their fangs into their victim, and introduce the poison to the circulation by means of a perforation in the tooth, which is connected with the poison gland. If surgical means are at hand the injured part should be immediately excised, or the poison may be counteracted by the introduction of some strong alkali, such as ammonia, into the wound. Such measures, to be successful, however, must be employed without any loss of time. If the poison has entered the circulation strong stimulants should be administered by the mouth, the best of which are—alcohol and ammonia. If there is great prostration the subcutaneous injection of ether may be resorted to, but beyond these a much more powerful remedy consists in the subcutaneous injection of strychnine, which would appear to act in direct opposition to that of the poison.

*Sneezing* is a convulsive movement produced by a reflex action affecting the nervous centres which control the secretions of the mucous membrane of the nostrils. This convulsive effort causes a forcible expulsion of air through the nares, as a rule carrying with it the irritating agent which has produced the act—that is to say, if it is due to the introduction of some foreign substance, such as snuff. Sneezing, again, may be produced, as it invariably is, in the preliminary symptoms of catarrh, measles, influenza, or any diseased condition which affects the air passages, because of the irritation produced in the nostrils by the poison which has located itself there, and endeavours to become resident for the time being. The act of sneezing is nature's effort to dislodge the poison and protect the system from the disease which characterises it. Continual sneezing

frequently results from the irritating particles consisting of the pollen of grasses and flowers, which culminates in hay fever. Persistent sneezing, however, also occurs where no foreign matter apparently has found entrance to the nostrils, but is caused by a catarrhal condition of the mucous membrane lining this portion of the air channel, which is due to a rheumatic condition of the mucous membrane. In this case it is always accompanied by considerable catarrh of a somewhat acrid nature ; it is then termed coryza.

*Snuff*, when habitually taken, must necessarily find its entrance to the stomach, and there it is a most prolific cause of dyspepsia. It does not, however, seem to be altogether prejudicial to health if taken in moderation, and in many instances would seem to produce actual beneficial effects by stimulating the nervous system and enabling it to perform work which, without its aid, it would be unable to accomplish.

*Snuffles* is a term sometimes applied to catarrh of the nasal mucous membrane of infants. The name is derived from the fact that the child makes a considerable noise in its efforts in breathing because of its instinctive desire to breathe only through the nostrils. The best treatment for this affection is to keep the child in as equable a temperature as possible, and introduce within the nostrils a little vaseline, and anoint the nose and forehead frequently with some animal fat, such as lard.

*Soap*, if properly made, should not injure the skin to any degree, but some soaps, especially those of a cheap manufacture, contain so much alkali in their composition as to produce an irritant effect upon the cuticle, and develop, especially in cold weather, chapped hands and chilblains. Properly speaking, soap should be composed of either animal or vegetable fat, with a sufficient amount of alkali (usually soda) to neutralise the oleic acid which it contains, and thus form the fat into an emulsion, which

thereby becomes soluble in water. Amongst the most useful soaps for toilet purposes are those containing paraffin wax, which would seem to deposit a layer of this soothing and protecting substance upon the surface of the skin, and thereby render it more elastic and healthy. Carbolic soap, again, is specially useful in the treatment of dandriff, eczema, and parasitic diseases of the skin. Various other forms of medicated soaps are reputed to be useful in certain affections, but the benefits which they possess must be entirely due to the fact that in them there is incorporated some antiseptic substance, such as borax, eucalyptus, terebine, pumuline, tar, etc. Castille soap is largely employed in the preparation of pills, and soap, if made into a pill, possesses slightly aperient properties. As is well known, soap is also pretty frequently employed as a component part of injections. A piece of soap the size of a walnut dissolved in a pint of warm water may be injected with considerable benefit in certain constipated conditions of the lower bowel.

*Soda* is an alkali, and is used both for domestic and medicinal purposes in the form of bi-carbonate of soda. It is largely used in the treatment of dyspepsia, especially where acid is a prominent symptom. It is a mistake, however, to employ bi-carbonate of soda too frequently, and in large doses, for the reason that it necessarily acts under these circumstances as an excessive stimulant to the gastric glands. It, however, may be safely taken in acid indigestion if the dose is not too large, and if the salt is well diluted with water. An excellent remedy in indigestion is composed of the following ingredients, of which soda is a prominent component, viz.:—Pepsine, 3 drachms; compound aromatic powder, 3 drachms; bi-carbonate of soda, 1 ounce; and heavy magnesia,  $\frac{1}{2}$  ounce—to be mixed well together and half a tea-spoonful taken in water three times a day after meals. Bi-carbonate of soda is extensively employed in the manufacture of effervescing

drinks, when in combination with citric or tartaric acid it dissolves and produces a refreshing beverage. Soda water, the popular effervescent drink, contains very little of the alkali, but sufficient to make it grateful when combined with the carbonic acid with which the water is saturated under pressure. Hyposulphite of soda is an excellent saline, and acts as a gentle purgative, and is a beneficial agent where piles are present. It is employed as an external application in certain fungus diseases of the skin, especially that form which goes under the name of chloasma or liver spot. It is also prescribed in that form of dyspepsia where sarcini are developed within the stomach, when it acts as a destructive agent to these little fungi. Sulphite of soda also acts in a similar manner to the hyposulphite. Chlorinated soda is prescribed as a disinfectant in ulcerations, especially of the throat and mouth, when it is employed as a gargle or mouth-wash. It is also useful in poisoning by prussic acid, when it is given in solution, and has a vigorous antidotal effect upon this powerful agent. Phosphate of soda is a very mild aperient in large doses, and as it is devoid of taste is frequently employed in children's diseases when a purgative is desired. It has so little taste that it may be given in soup or any other nourishment that the child may be partaking of. Sulphate of soda, or Glauber salts, possesses very much the same properties as Epsom salts, and may be employed for a similar purpose. Bi-borate of soda, or borax, is an excellent antiseptic agent, and is specially useful combined with honey and glycerine in the treatment of thrush in children, and also in the aphthous sore throat of adults. Chloride of sodium, or common salt, is one of the most useful agents which we possess, as from it the stomach derives the hydrochloric acid which is essential to the gastric juices. Bromide of sodium, again, is frequently employed in the treatment of whooping-cough, as it possesses valuable antispasmodic properties. Salicylate of soda has recently

become a most valuable medicine in the treatment of rheumatic affections, some preferring it to salicine itself.

*Solanum* is the natural order of plants, to which belong the potato, tobacco, belladonna, dulcamara, tomato, etc. A great number of these plants, or certain portions of them, are wholesome articles of diet, whilst others are deadly poisons and useful medicines.

*Solution*, as everyone knows, is composed of an ingredient mixed with water, which combines with it and causes it to disappear from sight. If the colour of the substance which is to be dissolved be distinct, then the liquid will be changed in colour also. Many bodies are soluble, such as the various kinds of salt, saccharine, and gummy substances. By solution in water or alcohol the finest possible state of division is attained, and therefore solution of a body renders it easily administered in the form of medicine.

*Somnambulism*, or Sleep-walking, is due to an unhealthy condition of the nervous system brought about by the presence of some irritating matter, usually within the alimentary canal. This excites the nervous centres to a state of unnatural activity during the epoch of sleep, or rather it should be said that sleep is disturbed by a species of wakefulness. As a rule somnambulism is associated with dyspepsia of one form or another, or a constipated state of the lower bowel; these causes being removed, therefore, will usually result in the cessation of this disagreeable and sometimes dangerous manifestation. *See Dreams.*

*Sore Throat* may be of several varieties, such as relaxed throat, catarrh of the throat, tonsilitis or quinsy, diphtheria, scarlatina, etc., but in this paragraph quinsy or tonsilitis, accompanied by a rheumatic condition of the blood, will be specially considered. As it is well known, certain individuals are peculiarly liable to this affection, but invariably these are of a rheumatic diathesis, and the inflammation which exists very frequently develops into

an abscess within the tonsils, causing most excruciating pain on any attempt at swallowing, accompanied by high fever, and liable to be succeeded by acute rheumatism after it has disappeared. It is invariably ushered in by a feeling of shivering, great prostration, and considerable fever, together with a very furred tongue, and constipated state of the bowels. Whenever quinsy is suspected to be threatening, the best remedy to administer internally is the following :—Salicine and chlorate of potash, of each  $2\frac{1}{2}$  drachms; guaiacum mixture, 6 ounces—a dessert-spoonful to be given every two hours to an adult, and a tea-spoonful to a child eight or ten years of age every two hours. At the same time the system should be well kept up by a stimulating and nutritious diet, port wine being especially beneficial, and egg flip, strong chicken soup, beef juice, and plenty of milk being amongst the most valuable forms in which nutrition can be administered. If these measures are energetically and promptly adopted the disease will frequently be cut short and an immense amount of suffering prevented, while at the same time the after-effects will be annihilated. It is a great mistake to think that quinsy can be averted by the old-fashioned and obsolete methods of treatment which have been and at the present day are yet frequently prescribed, such as mustard and linseed meal poultice, blistering, gargles, etc. Aconite, however, has been and frequently is still employed in the treatment of these affections, and proves very beneficial when there is no specific disease present. This remedy has many advocates, and no doubt has been specially useful in ordinary congestive attacks of the throat. It, however, simply acts by its effect upon the circulation, thereby reducing the tendency to congestion and favouring resolution without the inflammation having proceeded to suppuration. Its benefits, however, are not nearly so great as those conferred by the administration of the guaiacum, chlorate of potash, and salicine mixture, before mentioned.

With regard to the local applications which are made by means of gargles, these it must be confessed have a certain beneficial effect by the astringent properties which they usually possess, while if combined with some antiseptic, such as sulphurous acid, carbolic acid, or vinegar, they may act directly as destructive agents to the poison which is exerting its influence in developing the inflammation, and therefore on this account they are not to be depreciated, but at the same time I would insist that they must not be depended upon. Quinsy, tonsilitis, or sore throat, in any form whatever, is usually secondary to a lowered condition of the vital powers, and this is dependent, as a rule, if not directly due to, a constipated condition of the lower bowel.

*Sound* is a surgical instrument for the exploration of cavities within the body, such as those employed for the investigation of the contents of the bladder, and of the interior of the womb—the one being called a vesical sound, and the other a uterine sound.

*Sound, or Sounding*, is a term applied to the investigation by the ear of the condition of the various organs contained in the cavities of the body, especially those of the chest.

*Spasm* is a painful contraction of the voluntary or involuntary muscles of the body, such as cramp in the legs, colic of the bowels or womb, angina pectoris when the heart is affected, of the biliary duct when gall stones are present, or of the ureter when a calculus is passing from the kidneys towards the bladder. It is characterised by sudden agonising pain in the region of the part affected, which in a short time subsides, but only to be renewed when further muscular action is brought into play. The very severe pain that is induced in any form of spasm makes it important to procure speedy relief, and this can only be obtained by the action of some narcotic antispasmodic agent. Among the most useful and universally beneficial agents, in these circumstances, is the subcu-

taneous injection of morphia; next to this, the frequent application of very hot fomentations freely sprinkled over with laudanum, and afterwards the administration of opium by the mouth, or chloroform by inhalation. If the spasm is in the alimentary canal, any local or constitutional remedies that may be applied should invariably be followed by the free administration of a purgative. If, on the other hand, the gall duct is the seat of the disorder, together with the subcutaneous injection of morphia and the local application of opium, olive oil should be administered in large and frequently repeated doses. If the ureter is the seat of disease, and the calculus is passing from the kidney to the bladder, great benefit may often be derived by setting the patient in a hot sitz-bath for a considerable period, at frequently repeated intervals. If the heart is affected, as it is in angina pectoris, the greatest benefit will be derived from the inhalation of nitrite of amyl, or the administration of this substance combined with nitro-glycerine in minute doses, while the condition of the stomach should be carefully attended to, and antispasmodics administered by the mouth—the most valuable of which is chloric ether combined with ammoniated tincture of valerian. There is another form of spasm which frequently attacks children, especially if the digestive organs or bowels are out of order. This is called spasmodic or spurious croup, and will generally be relieved by the administration of a good dose of castor oil, while the upper part of the chest and throat should be well rubbed with an antispasmodic liniment, such as the following:—Liniment of soap and opium, liniment of belladonna, and compound camphor, of each equal parts—a little of which should be well rubbed into the throat and upper part of the chest every two or three hours.

*Spasmodic Diseases* are characterised by involuntary contractions of the various muscles—*e.g.*, lockjaw, which causes contraction of the muscles of the face; St. Vitus's

dance, where the patient is unable to direct the voluntary movements in consequence of spasmodic contraction of the muscles which he wishes to bring into play. Colic is a spasm of the muscular fibre of the intestine. Gall stones produce spasmodic contraction of the muscular structure contained in the gall duct. Gravel also causes this affection in the muscular tissue contained in the ureter. Cramp is another form of spasmodic disease, but the greatest development of this affection is found when epilepsy is present in an individual. An epileptic convulsion is neither more nor less than very strong spasmodic convulsions of the various muscles of the body, due to irritation at the base of the brain.

*Specific* is a term which is both applied to particular medicines and to certain diseases—viz., those which have a specific origin, such as syphilis, tubercle, and the various zymotic diseases. When the word is used with reference to medicines it means that these medicines have a specific action in certain diseases, such as quinine in ague, lithia and colchicum in gout, iodide of potassium and mercury in syphilis, salicine in rheumatism, etc.

*Spectacles* should always be selected under the supervision of a competent optician, who will be able to adapt the lenses to the various peculiarities which the individual may be subject to.

*Speculum* is an instrument largely used in the diagnosis and treatment of diseases of the internal organs, especially those of the ear, nose, bowel, and womb. As these have no special interest to the public at large, it is quite unnecessary to go into details with regard to any of them.

*Speech* is entirely imitative in its nature, and can only be developed under circumstances which enable the individual to imitate the sounds which have been produced by another. With reference to speech, so far as it concerns disease, it may be remarked that the speech often indicates the

condition of the nervous system—*e.g.*, when a man is drunk his speech becomes thick and inarticulate. The same may result, however, from paralysis or some aberration of the functions of the brain. Indeed, many diseases of the nervous system can be diagnosed very accurately by the condition of the speech of the patient. There is a peculiar circumstance connected with a disease situated in the posterior convolution of the left hemisphere of the brain. This disease is termed “aphasia,” and its peculiarity consists in the fact that the individual, knowing what he wishes to ask for or to speak of, applies the wrong name to the article or individual which he wishes to describe. Stammering in the speech is not a disease, it is a very bad habit, being due to a highly nervous condition of the individual; yet, in every instance, it may be recovered from by proper training when the individual is young. It may be the result of debility or a weak constitution, but on that point I am very doubtful, as there are numbers of people who are both weak and debilitated who do not stammer. Indeed, stammering frequently exists in those whose nervous system is most robust. It is extraordinary how an individual whose speech is defective loses the feeling which with others would create a considerable amount of hesitancy in addressing even an individual, not to speak of a public assembly.

*Sphincter Muscles* are those muscles which surround the orifices of certain organs, such as the bladder, bowel, etc. These muscular structures have the power of contracting and retaining the contents of the organ whose orifice they surround.

*Sphygmograph* is an instrument of comparatively recent invention for obtaining tracings of the pulse, by which the heart's action in its various stages of movement can be properly registered.

*Spinach* is a wholesome as well as a nutritious vegetable, and, as a rule, is easy of digestion. The taste for it, how-

ever, is always an acquired one, and in consequence of its peculiar flavour it is not a general favourite.

*Spine*, or Spinal Column, is a chain of twenty-four bones which enter into the composition of its structure. They are arranged and fitted to each other in such a way as to permit the most extensive motion of the trunk of the body in all directions, and at the same time enable it to retain its equilibrium. Besides being the means of keeping the body erect, the spine acts the important part of a shield for the spinal marrow, protecting it against the most violent shocks and concussions. From between the various bones which constitute the vertebral column the different nerves are given off for the supply of the upper limbs, trunk, and lower limbs. Each vertebra has its peculiar characteristic marks, and can be recognised from its appearance by anyone who understands anatomy. The vertebral column is divided into several sections, such as the cervical vertebrae, the two upper of which are most especially concerned in supporting the head; the uppermost of these is named the "atlas," on which the head moves forwards and downwards, and backwards and downwards. The second vertebra, called the "axis," rests upon the bony ring of the atlas, and is kept in its position by strong ligamentous bands which run across from one side of the ring of the first vertebra to the opposite side, and cross the tooth-like process of the second vertebra, binding them firmly together. By this arrangement the head is enabled to move from side to side as well as from before backwards. When the neck is broken in the process of hanging it is the tooth-like process of this vertebra which presses forward upon the spinal cord and thus extinguishes life. In all, there are seven vertebrae in the neck, the seventh or last being the most prominent of all, which is therefore called the "vertebra prominens." The next subdivision of the spinal column is the dorsal portion, which gives support to the ribs. After this come the lumbar

vertebræ, the lower of them resting upon the Sacrum, which *see*. This is composed of a series of vertebrae gradually diminishing in breadth, but moulded together. The spinal column is not straight, but has various curves which are natural to it. The principal of these is one outwards, which increases the capacity of the chest, and one which tends inwards at the small of the back, and these assist in maintaining the equilibrium of the body, and also in supporting the viscera of the chest and abdomen. As a rule, there is generally a slight curve towards the right side, which, when aggravated, becomes transformed into lateral curvature of the spine. As the spine, like the rest of the body, is made up of two lateral halves, it may (just as in the formation of hare-lip), from an incomplete union of the two primordial halves of the body, at times remain deficient in the neighbourhood of the loins, by which the membranes lining the spinal canal are left unprotected except by the skin, and the fluid accumulating at this region distends the membranes and skin, and forms a livid-looking bag full of semi-transparent fluid, which is termed "spina bifida." At one time this was considered a fatal malformation, but at present, by operative measures being skilfully adopted, the tumour can frequently be completely annihilated, and the integrity of the canal re-established. *Concussion of the Spine* is not an unfrequent result of a severe injury from falls on the feet or on the back directly. It may also occur from severe blows upon the back, and in consequence of this latter fact it frequently arises from the effects of railway accidents. The usual symptoms are—depression of the whole system, with a complete or incomplete loss of power in the portions of the body which are supplied by nerves issuing from the spine below the seat of the injury, and occasionally acute pain comes on in the lower limbs. The organs supplied by these nerves are also liable to be interfered with, such as the bowel and bladder, which frequently lose all power of retaining their contents,

and thus add very much to the distress of the patient. Until medical aid can be procured, the best thing to do in the circumstances is to place the patient carefully in the recumbent posture, and keep him perfectly quiet. Any inflammatory action which may supervene upon such an accident will require the usual treatment, such as leeching, cupping, fomentations, poultices, the application of soothing liniments, etc. The bowels should be kept active by means of purgatives or enemata, as the case may seem to warrant. Patients who are suffering from injuries of the spine, by constantly lying in one position, are very liable to be affected with bed-sores. It is therefore desirable that a water-bed be procured, which will not only add to the comfort of the patient, but at the same time reduce the tendency to bed-sores to a minimum. Surgical measures can frequently be employed now that antiseptic surgery is so well understood, and by these means pressure removed from any portion of the cord where it may be found to exist. If there is actual displacement of any of the vertebral bones paralysis must necessarily supervene, in consequence of the pressure which is brought to bear upon the spinal marrow. *Irritability of the Spine* is a condition which frequently exists in hysterical and nervous women. It is diagnosed by tapping the spine, and when percussion is applied to the point where the irritability exists the patient will complain of intense pain. This affection is usually associated with some diseased condition of the womb or ovaries, but local treatment by the application of an anodyne liniment or soothing plaster will afford considerable relief. Irritation of the spine is due to various causes, such as inflammation, rupture of the vessels within the cord, hardening or softening of the structure. Softening at the medulla oblongata, which is that portion of the cord nearest to the brain, is not an unfrequent concomitant, if not an actual cause, of epilepsy. The usual symptoms when the spine is irritated are—a disordered condition of

the functions of sensation and motion, accompanied by twitchings of the parts supplied from the diseased portion of the cord. It is quite impossible that any lay individual can treat such a disease; therefore, it is imperative that medical aid be called in with the least possible delay. It would appear that lockjaw is invariably due to the poison of tetanus acting upon the spine. Cerebro-spinal meningitis in many instances would appear to be an infectious disorder. This is accompanied by high fever, and is usually fatal. *Curvature of the Spine* is due to a diseased condition of the bones, and is closely allied to rickets. It is associated very intimately with tuberculosis. The treatment most to be recommended when this unfortunate deformity exists is, to have the patient enveloped in a plaster of Paris jacket, and administer muriate of calcium in combination with the compound syrup of the hypophosphites three times a day after meals, and at the same time maintain the strength by administering freely a nutritious diet. The length of time that the jacket should remain on is about three months. Lateral curvature, on the other hand, is not usually associated with disease, but is the effect of the body being continually or repeatedly bent in the direction which the curvature assumes. Of course it is very liable to occur in those of a delicate constitution, more so than in the strong and robust. This deformity was much more common before attention was directed to its prevalence by those having charge of the educational establishments of the country, before which time children were permitted to sit at desks which were quite unsuitable to their requirements. Plaster of Paris jackets are here again most useful to remedy the mischief which has been in ignorance developed. Gymnastics should also be recommended, and carried out very thoroughly.

*Spirits (Low)* are generally attributable to some functional or organic disease affecting the stomach, liver, womb, or ovaries. See articles on these various organs.

*Spitting of Blood* may be from two sources—viz., the lungs, when it is termed hæmoptysis; or from the stomach, when it is named hæmatemesis. In either case it is a symptom which requires very prompt attention. Until medical aid can be summoned, the patient should be kept perfectly quiet, and ice given by the mouth, while eight grains of gallic acid mixed in half a wine-glassful of water to which twenty drops of elixir of vitriol have been added, may be administered every two hours. If this does not succeed in arresting the haemorrhage, three grains of ergotine combined with fifteen drops of liquid extract of hamamelis may be administered with elixir of vitriol every four hours. If the haemorrhage proceeds from the stomach, great care should be observed with regard to the food that is taken, and this should be composed of the most digestible substances that can be given, such as peptonised milk, Valentine's or Wyeth's beef juice, raw meat, etc.

*Spleen.* This is an organ whose functions are very little understood, even at the present day. It is situated on the left side of the body, opposite the liver. Its texture is somewhat spongy, and is capable of containing a very large amount of blood, and its functions appear to have some direct bearing upon the health of that fluid. If the spleen becomes diseased and enlarged, which not unfrequently occurs, it is invariably attended with an enormous increase in the white corpuscles and decrease of the red corpuscles of the blood, and so anaemia results. In certain fevers, such as ague, the spleen is always liable, as well as the liver, to become enlarged.

*Splint* is an apparatus for keeping fractured bones in position. They can be made out of almost anything—a piece of wood, cardboard, or plaster of Paris, or starch laid upon a bandage and allowed to dry.

*Sponge* is an animal product, chiefly brought from the Levant in the eastern portion of the Mediterranean Sea. Sponges are invaluable in surgical practice, but it should

be particularly emphasised that before being employed in surgical operations they should be thoroughly disinfected. In abdominal surgery especially, sponges should never be employed a second time without the utmost precautions being taken to ensure of their asepsis.

*Spongio Piline* is a mixture of sponge with some other substance, such as cotton or linen, and afterwards covered with a waterproof substance, such as india-rubber. It is frequently employed as an application when compresses or fomentations are indicated.

*Sporadic Diseases* are those manifestations of specific diseases which develop individually and not in an epidemic form, although sporadic disease may frequently, and often does, give rise to epidemics.

*Sprain* is the result of an accident, which either over-stretches or ruptures the ligaments surrounding a joint. The ankle and wrist are most liable to this accident. When such occurs it develops pain of a most excruciating character, which is immediately followed by considerable swelling of the part, and possibly discolouration—the swelling and discolouration being due to the rupture of small vessels which supply the part which has been injured. If the discolouration does not show itself after the accident it will undoubtedly do so at a later period, and if the limb has been placed in a horizontal position this discolouration may spread to a considerable extent up this member. Sprains may frequently be confounded with fractures, especially when the ankle is involved, as a small projection of the tibia and fibula, called in each case the "malleolus," may be fractured, and when this occurs it of course adds very much to the gravity of the accident. In a sprain, however, pure and simple, no such complication arises. The treatment that is suggested in sprains is that which will give the most immediate relief to the pain which has been incurred, and probably the most efficient method of treating this is by the application of four or six leeches over the

seat of injury. The effect of leeches in such circumstances is very apparent and always beneficial—the pain will speedily subside, and the convalescence of the part be very much accelerated. If, however, the sprain has existed for a considerable time, leeches will not then be of the same service, and hot fomentations and soothing liniments should be applied at regular intervals, with a view of relieving the intense suffering that always accompanies the rupture of ligaments, which practically constitutes a sprain. After the liniment has been applied, a firm bandage should be brought to bear upon the parts which have been injured, both to promote absorption of the fluid that is being effused by the accident, and also to support the weakened joint. It is a mistake to keep a patient who has been suffering from a sprained joint too long in one position, as thereby stiffening of the joint is liable to result, so that after a day or two's rest slight movement should be encouraged (at the same time retaining the bandage in position), with a view of strengthening the weakened parts. In about ten days or a fortnight afterwards the joint should be placed under a douche bath, and afterwards rubbed vigorously with a rough towel, so as to stimulate the process of absorption which must necessarily go on until the sprain is completely recovered from.

*Squill* is grown on the banks of the Mediterranean, and is a bulb resembling in many of its external appearances an ordinary onion. It is a useful medicine in bronchitis and catarrhal affections of the chest, and is usually administered either in the form of tincture, syrup, or oxymel. It also possesses diuretic properties, which render it a useful adjunct to other medicines, such as digitalis, ipecac, etc., in diseases which are dependent upon a catarrhal condition of the lungs or chest. The following mixture, into which squill enters very largely, is most efficacious in bronchitis, viz.:—Ipecac, 3 drachms; chloric ether, 3 drachms; chlorodyne, 3 drachms; and syrup of squills to

make 3 ounces—a tea-spoonful of which is to be taken at frequent intervals when the cough is troublesome.

*Squint* is due to a spasmodic contraction of the rectus muscle of the eye at one side or other. It is a most disfiguring deformity, but fortunately it is one that can at any time be removed by a simple operation. In technical language it is termed strabismus. The method of operating for the cure of squinting is exceedingly simple, and with the assistance of cocaine can be performed without any suffering on the part of the patient. In recent years, before the discovery of cocaine, it was usually necessary to place the patient under chloroform to enable the operation to be successfully performed, and doubtless even at the present time this is preferable to cocaine.

*Stab* is a deep wound produced by a sharp instrument, and in consequence of this is usually attended with considerable danger—the danger increasing according to the presence of vital organs in proximity to the injury.

*Stammering* is entirely, and in every sense of the word, a bad habit. No one should stammer, as the affection can invariably be cured if proper discipline and treatment be carried out. Of course, in the treatment of such an affection, which usually occurs only in nervous people, the individual himself, and his friends, must of necessity confide entirely in the medical man who takes the case in hand. There are so many systems applicable to the treatment of this troublesome affection, each of which has its own special merits, that it would be quite impossible in a work of this kind to prescribe any one method by which the nervous disorder should be removed. Stammering should always be treated in the early years of youth, and no expense or sentiment should ever interfere with parents taking means to remove this serious defect. *See Speech.*

*Starvation*, or Abstinence from Food, may proceed to a very considerable degree without actual danger to life accruing. It is a well-known fact that we eat much more

than our body requires for actual nourishment. It is also well known that we can live a longer period without food than we could without water. When starvation has proceeded to an undue extent and food again comes within reach, this should at first be partaken of very, very sparingly indeed, as otherwise the individual may die from the effects of over-eating ; whereas, if food is given in very small and gradually-increasing quantities, the stomach will become accustomed to it, and acquire by degrees the power to digest an ordinary meal. We all know the terrible effects of famine and of the enormous death-rate that accompanies this dreadful calamity. If, however, the authorities in the districts affected were to take the precaution of husbanding all the food that they could annex, a great deal of life might easily be saved by giving this out in small but sufficient quantities to the afflicted people. Several experiments have recently been made on the human body to test its powers with regard to abstinence from food. Such experiments, however, should not be encouraged, as they are only carried out by men who court notoriety and make money out of their exhibition. The body is always provided with a sufficient amount of fat to enable it to retain its temperature under even extraordinary conditions, and if starvation is accompanied by a warm temperature, so that the animal heat can thus be retained, an individual will be enabled to endure starvation with much less risk to life than he would otherwise be able to do. The fat of course goes first in every instance of starvation, this being consumed in nature's attempts to retain the animal heat of the body. It may seem quite paradoxical to state that starvation very frequently occurs in the midst of plenty, but such is actually the case, for although a person partakes of quite a sufficiency of food to sustain him in ordinary circumstances, and keep him at the same time in good health, all things being equal, yet, although digestion may go on pretty fairly under such circumstances,

the organs of assimilation may be so deficient as to be unable to absorb the food, and thus render it useful in the maintenance of health. This condition is peculiarly apparent in tubercular disease, which attacks the glands of the abdomen; hence wasting and debility supervene, notwithstanding the fact that an abundance of nourishment may be taken by the individual. In the gradual starvation which occurs where food is deficient the symptoms usually commence by great depression of the nervous system, this being apparent in the ordinary sensations and mental powers of the individual. This, however, will invariably be accompanied by an irritable condition of the system, and possibly some aberration of the mental powers. The physiognomy of the person becomes sallow and dusky, the eyes inanimate, and a general appearance of imbecility exists. The stomach loses its activity, and thus the digestion, as well as the appetite, is impaired. Languor and despondency, with a disposition to sleep, from which he is apt to wake in a dreadful nightmare, usually are the symptoms which manifest themselves in starvation. As is to be expected, there is a sensation of chilliness, also breathlessness, palpitation, giddiness, curious noises in the ears, possibly swimming or cloudiness before the eyes, and indeed blunting of all the sensations. In some districts of countries which are inhabited by an improvident and poverty-stricken population, starvation may, and frequently does, give rise to a certain form of fever called famine or relapsing fever. It is difficult to account for the specific cause of this fever, but it is probably due to the spores of the potato disease finding an entrance to the human body, and manifesting itself in the peculiar symptoms which are present in this enervating disease. *Refer to Relapsing Fever.*

*Steel* is usually administered in the form of steel drops or tincture of iron. It is a useful blood tonic, and may be taken either in the form of tincture, solution in water, when

of course it is the oxide of the metal which is partly dissolved, and this constitutes the essential principle of the numerous iron waters which are so popular as remedies in anaemia, etc.; or in syrup, which holds in solution other salts of the metal—such as the iodide, phosphate, hypophosphite, etc. The preparations of steel, as a rule, are astringent in their properties, but not unfrequently one meets with individuals whose peculiar idiosyncrasy renders these salts purgative in their effects. This should always be borne in mind, therefore, when prescribing iron or steel in any form. It is a peculiar circumstance with reference to the salts of iron that they are very readily absorbed, and are therefore beneficial when prescribed in such a way that a fresh salt of the metal will be developed within the stomach—such as is aimed at in the composition of Blaud's pills, capsules, or palatinoids.

*Sternum* is the breast-bone, which is placed in the centre of the chest, and gives attachment to the collar-bone and the ribs anteriorly, and in consequence of its power of movement enables the chest to expand and retract in the process of breathing.

*Stertor*, or *Stertorous Breathing*, is almost synonymous with snoring, only it is produced by a condition of the nervous system which abrogates the sensibility of the throat, and therefore is always an indication of approaching death in such diseases as apoplexy, blood-poisoning, etc.

*Stethoscope* is an instrument usually made of wood, but also of vulcanite or metal, which conveys the sounds of the chest, heart, and blood-vessels to the ear. Without it, it would be difficult to ascertain and localise certain diseases which affect the most important organs of the body, and it is therefore the instrument which physicians employ probably more than any other.

*Stewing* is that process of cooking meat by heat which should never reach the boiling point, but continue for a very long period. Although a stew is a very enticing

article of diet, it does not add to the digestibility of the meat by cooking it in this way. This, however, would be largely overcome if the gravy was partaken of at the same time with the meat, because in the process of cooking by this means the digestive salts are dissolved out of the meat, and therefore the stomach is deprived of these if the sauce is not taken along with it. Too much fat should never be allowed to be taken with stewed meat, and people who have weak stomachs should carefully avoid it, as it is very liable to give rise to acidity and flatulence.

*Sticking Plaster* is usually made by spreading resin plaster upon calico, but a great improvement has recently been made by introducing india-rubber into the composition, and thus rendering the plaster not only more adhesive, but more durable than that which is simply made by resin or diachylon. It is a good plan to have the plasters perforated, so as to permit of the action of the skin over the seat of their application.

*Stiff Joint* is invariably due to some inflammatory action having taken place within the joint, and afterwards adhesions resulting, from the inflamed surfaces becoming united. It frequently occurs after fractures or inflammatory affections of the joint, and is also a sequela of rheumatism. In the treatment of stiff joint massage is a most useful agent, but often complete relief can be given by placing the patient under chloroform and forcibly breaking any adhesions that may have taken place. Great care, however, should be taken when this course is to be adopted, as, if any inflammation be present, it may have an opposite effect from that which was intended.

*Still-born* is the term applied to children who are not viable after birth. In many circumstances it is very necessary to decide if a child has been actually still-born, as, if life has been present even for an infinitesimal period, very important contingencies may be dependent upon this circumstance, especially as to the disposal of property.

*Stimulants (Alcoholic).* These are made up of fermented and distilled liquors, the principal of these being whisky, brandy, rum, gin, grape wines, malt liquors, and those prepared from the apple and pear. Distilled liquors, of course, may contain a much larger proportion of alcohol than those which are simply fermented; indeed, they are composed entirely of alcohol diluted with water, depending for their flavour upon certain oily constituents which they may contain. Alcohol itself is a narcotic poison; therefore, all alcoholic stimulants are more or less poisonous in their nature, and this is very frequently made apparent by the effect upon the brain and circulation, which a too free indulgence in them produces. It is a matter of most vital consequence to decide whether stimulants are injurious or beneficial. If they are taken in moderation there can be no doubt that they are beneficial; but if, on the other hand, they are taken to excess, it is not difficult to impress upon any intelligent individual that they are highly pernicious. If then a person is unable to keep within proper bounds, that man should at once make up his mind to become a total abstainer. Indeed, I would go further, and say that if a person has once exceeded he should either make a point to confine himself to a limited quantity, or, if he is unable to do this, to resist the temptation of taking it altogether. There can be no doubt that stimulants are a great aid in the treatment of certain diseases, especially those which produce great exhaustion, and it is beyond doubt that many valuable lives have been saved by the judicious administration of these beverages. When alcohol in any form is prescribed as a medicine it must be kept in view that it becomes a poison when once flushing is developed by its use. Supposing a glass of port wine is ordered to a patient two or three times a day, and that glass of wine induces a flushing of the countenance, then a glass is too much for his particular requirements, because the very fact of flushing having occurred indicates that the alcohol

contained in the wine has acted as a paralysing agent to the minute vessels which control the circulation in the face; hence its narcotic properties have been developed. The effects of alcohol upon the organs of digestion may be either hurtful or helpful, and it remains for the individual to find out what particular form of stimulant is most adapted to his peculiar requirements. No medical man should ever take upon himself the prescribing of a particular form of stimulant, as the individual himself is alone able to arrive at a proper conclusion upon this important point. It is also a peculiar fact that certain people are affected very differently from others by stimulants, some being able to take a large amount without any apparent injury, whilst others are affected most seriously by a smaller quantity. The effects of spirits taken to excess are always more serious, acting as they do, not only upon the nervous system, but upon the various organs of the body, especially the liver and kidneys. Climate, again, has a most wonderful influence on the effects produced by stimulants—*e.g.*, in warm climates like India large potations of stimulants invariably produce much more serious effects upon the constitution than a similar amount would bring about in colder latitudes. Then, again, it must be remembered that over-indulgence in alcoholic liquor invariably becomes such a dominant habit that it can with difficulty be relinquished; moreover, the children of drunken parents are born with the same craving which their progenitors have acquired. Alcoholic drinking to excess, again, produces many social evils which are to be deprecated by every right thinking man, as there can be no doubt that insanity and crime are largely due to the over-indulgence in stimulants. On the other hand, it is a difficult problem to solve if stimulants are not useful agents in domestic economy, as we frequently find that those who abstain entirely from the use of alcohol indulge to an inordinate extent in other ways—viz., as gluttons. My experience of

teetotallers is, that they are enormous eaters, and are shorter lived than those who take food and stimulants in moderation. The difficulty, however, is to draw the line; and probably, from a moral point of view, the teetotaller has the advantage, simply, however, from the fact that over-indulgence in alcoholic stimulants does more harm to the individual and to society at large than over-indulgence in eating does.

*Stimulants (Diffusible)*—such as ammonia, ether, etc.—are useful adjuncts to medicine, and prove of immense service in certain diseased conditions which develop sudden and extreme weakness.

*Stings* of Bees, Wasps, etc., are produced by the insertion of the sharp-pointed and perforated sting, which permits the introduction of formic acid into the part. It is always accompanied by intense pain and inflammation at the seat of injury. The poison is secreted by a small gland at the base of the sting, where it is contained in a minute sac. Individuals are affected very variously by a sting from these insects—in some it produces only trifling symptoms, while in others it may give rise to serious consequences and prolonged suffering. Not unfrequently a sting of this nature has proved fatal. The first thing to do in the treatment of stings is to endeavour to extract the sting itself, and afterwards apply ammonia in a liquid form to the part, or if this be not at hand some other alkaline solution, such as soda, potash, or lime, which has the effect of destroying the acid which produced the irritation, and thus renders it inert.

*Stitches* is a term which is applied to shooting pains, usually of a neuralgic character, although a stitch in the side should always receive careful attention in case it should indicate any inflammatory affection of the pleura.

*Stomach*, as is well known, is the organ which is chiefly concerned in digestion. Its position is more to the left than to the right, and it may be said to lie just below the

heart; hence distension of the stomach frequently gives rise to palpitation, in consequence of its encroaching upon the space which the heart requires for its own movements; thus, pressure is brought to bear upon it, and it is liable to thump against the walls of the chest when the stomach is distended by flatus. The stomach is made up of three different coats or layers, the outer one being composed of peritoneum, which covers all the viscera of the abdomen. The middle layer is composed of muscular tissues, whose movements are voluntary and continuous during the process of digestion. It is by means of the muscular coat that the churning process is kept up when food is undergoing digestion. The innermost coat is made up of mucous membrane, this being continuous with that of the gullet and mouth, and that of the intestines. The mucous lining is drawn into folds or wrinkles called "rugæ," which extend longitudinally. When the organ is at rest this lining membrane is of a pale pinkish colour, but whenever its functions are called into exercise it becomes much reddened by the increased supply of blood which it receives to enable it to secrete the gastric juice in sufficient abundance for its requirements. The chief disorders which the stomach is liable to are—indigestion, gastralgia or neuralgia of the stomach, gastritis or inflammation of the stomach, and it is also liable to organic disorders, such as cancer and ulcer. A blow over the region of the stomach produces intense prostration, pain, and a sensation of impending danger. This is evidently due to the fact that the concussion affects the large nerve centres which lie immediately behind this organ.

*Stomach Pump.* See Pump.

*Stone* is a term applied to concretions which form in the gall bladder and kidney, and is synonymous with Calculus, which see.

*Stone Fruit*, generally speaking, is more indigestible than any other description of fruit. This would appear, however,

to be due to the fact that their covering is more dense than that of other fruits, and therefore should be removed. If this precaution be taken, then there is no reason to suppose that this form of fruit is injurious any more than those fruits from which we habitually remove the skin. British cholera is usually associated with the fruit season, but there is no reason to suppose that this is due to the eating of ripe fruits. It is more probably entirely dependent upon the effects of the summer heat, not only upon the individual, but upon the development of germs of disease which are liable to locate themselves in drinking water.

*Stools* is the popular name applied to the evacuations from the bowels. A great deal of information may frequently be gathered by the medical man if he pays particular attention to the nature of the stool of an individual suffering from illness. In children especially this remark is very applicable, as by careful observation upon this point a great deal of useful information may be obtained in the treatment of the diseases of children. In adult life also, indications are frequently present in the stools which will enable the physician in attendance to give directions which will have a most important bearing upon the cause of disease and its cure. For a person to be in perfect health he should have a free and complete evacuation of the bowels at least once in the twenty-four hours, because if the fæces are retained for an undue length of time within the colon absorption of their fluid contents takes place, and hardened masses which are difficult of expulsion remain behind. These act as direct irritants upon the nerves of the parts, while the putrid matter which has been absorbed by the blood-vessels circulates within the blood, contaminating and vitiating it, and thus produces a species of blood-poisoning. In consequence of this, the nervous apparatus becomes more or less incompetent to perform its functions properly, and general languor, lassitude, dyspepsia, depression of spirits, and irritability of

temper, together with headache, pains in the muscles, and not unfrequently rheumatism, are the results. In infancy the appearance of the evacuations will frequently give a very correct indication of the nature of the disease which is present. If they are green they will usually be associated with an unduly offensive odour, and as a rule indicate an acid condition of the secretion. Clay-coloured stools, on the other hand, indicate a deficiency of bile, while white stools point to an entire absence of this fluid, and are invariably a most prominent symptom in jaundice. If the stools are very fluid and frequent, then we conclude that diarrhoea is present, and that some irritant within the alimentary canal is the cause of the excessive discharge. It has been roughly estimated that the normal discharge from the bowel of an adult every day should, at least, be four ounces in weight. Nature has provided that the fæces, which are the debris of the food which has been partaken of, and which is decomposing matter, should be possessed of a fetor which necessitates their being disposed of in such a way as shall prevent them being hurtful. It must be remembered, however, that a certain character of this fetor will frequently indicate that disease is present, the more disagreeable the odour being invariably indicative of some form of disorder—*e.g.*, typhoid fever, tuberculosis, and diarrhoea, in which the fetor is oftentimes quite overpowering, showing that some active decomposition is going on within the alimentary canal. There is a peculiar form of diarrhoea which is invariably accompanied by this very offensive odour. This is due to the presence of an accumulation of hardened fæces within the upper reaches of the colon, and nature, in her efforts to get quit of this, excites the portion of the gut below the offending matter to secrete mucus in large quantities, which has the effect, to a certain extent, of partially dissolving the lower portion of the accumulation, which is evacuated at frequent intervals in consequence of the irritation which its presence causes. This diarrhoea

is always most imperative in its call, and usually is induced by rising to the erect posture or by taking food. It is always unsatisfactory in its character, the individual invariably complaining that he or she never feels the slightest relief from the evacuation. This form of diarrhoea invariably alternates with periods of constipation, so that there will be two or three days of diarrhoea, and then a few days of constipation succeeding each other in regular order. No one should be satisfied with the daily evacuation of his bowels without he is convinced that complete relief is at the moment obtained, as it is quite erroneous to suppose because a person has a movement of his bowels every day, that he has had a complete evacuation. When, therefore, there is the least tendency to sluggishness of the bowels, the diet should be so regulated as to assist nature's efforts, and this can be accomplished by partaking of brown bread, porridge, and fruit, and always making a habit of endeavouring to have a stool immediately after breakfast. It is quite wonderful what can be done by these simple measures. In many instances it may be necessary to assist nature by an enema, and this is probably the simplest form of doing so that can be adopted. No prejudice should ever interfere with this, as the enema can never do any harm, and in suitable circumstances invariably does an enormous amount of good. If the stool contains blood the cause of this should immediately be solved, as it may indicate piles, dysentery, ulceration, or rupture of some vessel within the bowel. If the blood is fresh and clotted it usually proceeds from piles; if it is black and tarry-looking this indicates that the seat of the disease which has given rise to the haemorrhage is pretty high up within the alimentary canal. If, on the other hand, it is mixed with mucus and accompanied by severe straining, then dysentery, or dysenteric diarrhoea is present. Straining at stools should never be encouraged, as thereby, especially in children, it may result in prolapse of the rectum. A great many people raise

objections to taking purgatives when their bowels are constipated, holding that it is a bad habit, while they forget that it is a much more pernicious thing to permit constipation to exist. Purgatives in these circumstances, therefore, may be considered as the least of two evils. My opinion is, that when the bowels are evacuated daily, and the evacuations are of a healthy character, that there is little fear of disease of any seriousness affecting that individual, at least his chances of remaining in good health are very much enhanced by the fact that his bowels are thoroughly moved every twenty-four hours.

*Stoves*, in contradistinction to open fires, are less wholesome in consequence of their tendency to consume, or at least heat, the atmosphere of the compartment. They are therefore unsanitary, although, possibly, they may be more economical as far as heat is concerned. No heat can possibly be considered effective and conducive to health unless it at the same time guarantees a supply of fresh air continuously; hence the unsanitary effects that stoves invariably produce. If an apartment is heated by a stove it necessarily follows that the air is thereby vitiated, and that consequently a sense of stuffiness is conveyed to the room, while those who are occupying it must feel enervated and depressed by the heat which it generates. A circulation of air is necessary to secure the well-being of those who are being kept comfortable by artificial heat. Stoves, therefore, are to be condemned *in toto* in dwelling-houses unless these communicate very freely with a vent, when of course the stove becomes converted not only into a heating, but a ventilating apparatus at the same time. Gas stoves especially are prejudicial to health if precautions are not taken to carry off the burnt fuel. Slow combustion and other stoves which are intended to economise the use of coal are no doubt economical, but they should in every instance be thoroughly well ventilated, or the most serious consequences may ensue from their

employment. The only proper method for heating, and at the same time ventilating, dwelling-houses, is by means of an apparatus which, while conveying heat, will at the same time supply an abundance of fresh air.

*Straining* at stools is invariably an indication of some irritable condition of the lower portion of the colon. This may arise either from constipation or a dysenteric condition of the bowel. See Constipation, Stools, Dysentery.

*Stramonium* is a drug which is largely employed in the treatment of asthma. The most beneficial effects are derived from smoking the stems and leaves of the plant. It seems in asthma to exert a powerful antispasmodic effect. In the process of smoking it should be inhaled as deeply as possible into the lungs. It enters largely into the various preparations which are advocated for the treatment of asthma.

*Strangulation*, when applied to the throat, invariably results in suffocation, in consequence of the circulation of air being interfered with; therefore, the patient dies if the strangulation is continued for even a very short period. The term is also applied to hernia or rupture, when the gut is said to be strangulated, and the part that is protruding becomes constricted and cut off from the neighbouring portion of the gut, when, as a consequence, gangrene of the ruptured portion is liable to occur if it is not speedily attended to.

*Strangury* is the term which is applied to an inability to make water, in consequence of the sphincter of the bladder not responding to the will of the individual. This frequently occurs from the application of a fly blister, or taking catharides internally. It may also result as a reflex symptom in irritation from piles, or after operations in the neighbourhood of the bladder.

*Strawberry*. Isaac Walton once said regarding it—"God might possibly make a better fruit, but certainly he never did." It is not only wholesome but nutritious, and

exceedingly pleasant to the taste. When strawberries are in season they should be partaken of as freely as possible in the early part of the day, when they excite a most beneficial effect upon the lower bowel, invariably tending to promote a healthy action of this viscus. Many authorities have advocated the strawberry as a remedy in certain diseases, but this of course is to be relegated to the regions of nonsense.

*Stricture* is a term which is applied to a contracted condition of various canals, such as the urethra, the neck of the womb, vagina, etc. In the two latter cases it is generally called atresia.

*Struma* is a synonymous term for scrofula or tuberculosis. It is usually applied to ulcers, which are liable to occur upon the skin in scrofulous or tuberculous patients, although it has also been, and frequently is, used in association with tuberculosis, attacking the glands of the neck and the various joints.

*Strychnine* is one of the most powerful tonic remedies which we possess in muscular and nervous atony. Its poisonous effects are first of all apparent upon the muscles controlling the movements of the jaws, afterwards upon those of the chest, and lastly the muscles of the limbs become affected. As is well known, strychnine is a deadly poison when given in lethal doses ; at the same time it is one of the most valuable medicines contained in the pharmacopœia. It is especially useful as a subcutaneous injection in certain forms of paralysis which are not due to organic disease. It is also employed in this method in chronic alcoholism or dipsomania. Doubtless, in this respect it possesses properties which few other drugs can possibly lay claim to. It is also a valuable nerve tonic, and may be given with great advantage in certain forms of dyspepsia and muscular atony. Its effects are not only manifest upon the voluntary, but also upon the involuntary muscles ; hence it becomes a useful agent in promoting a

healthy action of the involuntary muscles, such as those of the heart, bowel, womb, bladder, etc. The dose of strychnine for an adult is one-twentieth of a grain, which may be repeated three times a day, while for a child from eight to twelve years of age one-fiftieth to one-thirtieth of a grain will be found quite sufficient.

*Stun* is a term applied to the effects of a blow upon the head, and is synonymous with Concussion of the Brain, which see.

*Stye* is a pimple which forms upon one or other of the eyelids and proceeds to suppuration, sometimes giving rise to considerable inconvenience and constitutional disturbance. Invariably it is the result of a low state of the general health. With a view to arrest the progress of this disagreeable affection, the best application is a poultice of tea leaves, which, by exerting an astringent effect, in many instances prevents the stye from coming to a head, and thus yields relief.

*Styptics* are applications invariably of an astringent character, and by their action in this direction are employed to arrest hæmorrhage. Amongst the most useful styptics that we know are those containing tannin or alum in one form or another; thus tannic acid and gallic acid are useful styptics, while those containing alum are also employed as local applications. The most popular of all the styptics which are given internally are those which act directly through the circulation upon the bleeding orifices of the vessels—viz., gallic acid, tannic acid, sulphuric acid, muriatic acid, the per-chloride of iron, turpentine, the salts of copper, iron, and lead, hamamelis when the veins are at fault, and ergot of rye when the arteries are the source of the hæmorrhage.

*Subsultus* is a term which is applied to a peculiar involuntary movement of a muscle. This is generally most apparent in one of the facial muscles, which is situated just below the lower eyelid, although it may also occur in any

voluntary muscle of the body. It is usually associated with debility and an impoverished condition of the general health.

*Suckling* is another term for nursing. Every mother should, if possible, suckle her own child. In many instances, however, this is quite impossible, in consequence of the effect which it has either upon the nervous or physical health of the mother. The most natural food for women who intend suckling their children is the simplest that it is possible to suggest—viz., a large amount of farinaceous and milk diet, combined with a moderate amount of animal food. If it is at all possible, however, for a mother to avoid the use of stimulants as an aid to nursing, these should always be abstained from, as they cannot but be prejudicial not only to the mother herself, but also to her offspring.

*Sudden Death* may occur from many causes, the principal of which, however, are heart disease, apoplexy, embolism; the latter of which is the liberation of a clot from the heart, which finds its way into one of the large vessels which supply the brain with blood, and by blocking it deprives the brain of nourishment, which is essential to the existence of life.

*Sudorific* is a medical term applied to certain drugs which promote a free action of the glands of the skin, which results in copious perspiration. It is synonymous with the term diaphoretic.

*Suffocation* is the term applied to the circumstances which deprive the individual of air containing oxygen, and thus death results from the failure of the lungs to receive a sufficient supply of this vital gas. Suffocation is the direct cause of death; as in hanging, drowning, and any other method which is adopted for preventing fresh air from entering the pulmonary organs. Suffocation, therefore, may result from being overlain by any animal—such as a cat or dog, which is permitted to have free communi-

cation with bedrooms, nurseries, etc., in which young children are sleeping. It may also arise, and frequently does, from breathing an atmosphere which is largely impregnated with carbonic acid gas, and, as is well known, where persons are immured from the falling of soil when excavating mines, tunnels, or other structures, and in children who are overlain by their parents. Suffocation may also occur in infants during the process of parturition, when, if the cord is strangulated in any way, admission of air, or the circulation of oxygenated blood, is interfered with.

*Suffusion* is a medical term which is applied principally to the eyes when they become lachrymose. Suffusion is an indication of certain diseases—such as inflammation of the eyes, the onset of measles, and also of typhus fever.

*Sugar* is purely a hydro-carbon, and for domestic purposes is invariably procured from the vegetable kingdom. The original source from which sugar was obtained was from the sugar cane, but now it is produced much more largely from beetroot. It is also contained in all the fruits which we use for domestic purposes. Sugar is so closely allied to alcohol that saccharine substances are readily decomposed, and produce the alcoholic stimulants which are so largely partaken of by the human race. No matter where an individual is situated he always seems to be able to produce alcohol from one substance or another, but in each case that substance must contain sugar. The elementary substances contained in sugar are carbon, oxygen, and hydrogen, but according to the quality of the sugar they vary in proportions. Milk also contains a variety of sugar called sugar of milk. This, however, does not crystallise, and very much resembles glucose in composition. Cane sugar is produced from the sugar maple, birch, beetroot, carrots, turnips, and other succulent tubers. Its chief source, however, is the sugar cane, from which it is abundantly extracted. The canes are crushed between

heavy rollers, and the juice which is thus driven out, after undergoing certain operations, is left to crystallise. The dark portion is uncrystallisable, and closely resembles glucose in its composition ; this is run off, and sold under its proper name of treacle, or molasses. This substance resembles in every particular the sugar which is contained in grapes, which, by a process of fermentation, is transformed into alcohol, and thus yields to wine the properties which render it capable of being preserved in a sound condition. Cane and grape sugar differ very much, in so far that the grape sugar will not crystallise, while cane sugar, by evaporation of the fluid in which it is contained, will take on the crystallised form. Although grape sugar is a natural production of many fruits, it can also be manufactured from starch, dextrin, and even from cane sugar, by the action of acids. When cane sugar is pure it ought to crystallise, and contain no moisture in the crystals ; when, however, grape sugar is mixed with it, it is liable to become damp and not so readily crystallisable. When starch is taken into the mouth in any form, such as in potatoes, bread, sago, arrowroot, or tapioca, the salivary secretion acts upon it and transforms it into glucose, or grape sugar ; for it must be understood that starch as starch cannot be utilised by the animal economy, but must in every instance be transformed into glucose. Anyone can demonstrate this fact for himself by taking a piece of white bread into the mouth and masticating it thoroughly, when after a short time it will be found that what at one time contained no sugar, as far as the taste is concerned, gradually becomes transformed into a sweet substance, which is glucose. In this form it is rendered easy of assimilation. When sugar is not absolutely pure it may contain portions of the cane and vegetable albumen which the plant produces, and these invariably induce a strong tendency in the sugar to ferment, and assist to nourish a minute insect called the sugar acarus. This

disgusting insect is quite visible to the naked eye, and acts as a direct irritant to the skin of those who come in contact with the sugar, either in the process of manufacture or sale. It is due to this insect that so much skin disease frequently occurs in those who are mixing or handling sugar in any way whatever, and in this way is brought about what is popularly designated "the grocer's itch"—a most loathsome and disgusting skin disease. Sugar, as is well known, is met with in the urine when diabetes is present. This affection seems to be entirely dependent upon the fact that a complete assimilation of the ingested food has not taken place, and the sugar is allowed to circulate in the blood instead of being brought into use as a nourishing and heat-producing agent. The presence of this substance within the blood stimulates the kidneys to undue action in their endeavour to eliminate the foreign matter, the consequence being that they secrete fluid in very large quantities, which is always impregnated to an undue extent with sugar in solution. Milk of sugar is closely allied to the old-fashioned aperient medicine which was called manna. It occurs in thick crystalline crusts of a slightly yellowish tinge, and is exceedingly useful as a sweetening agent for the food of young infants, being more readily assimilated than ordinary sugar, and possessing at the same time slight aperient properties. Sugar of lead is the acetate of this metal, as has been mentioned when the subject of lead was being treated. It possesses many virtues, amongst those being antiseptic and astringent properties. It is largely employed in applications to the eye in ophthalmia, in the treatment of ulcers, and in pill, when it seems to exert a specially beneficial influence in cases of diarrhoea of a severe type, more especially that of typhoid fever.

*Suicide* is the act of a person of insane mind who takes away his own life. Dr. Forbes Winslow says—"It is the prevalent opinion, even among persons otherwise well educated and intelligent, that this desire of self-destruction

is, in the majority of cases, a mental act, unconnected with a disturbed condition of the bodily functions, and incurable by any process of medical treatment; that the mental depression which is so generally associated with the invisible tendency is an affection of the mind *per se*; the physical organisation having no direct connection with what is termed the spiritual impulse." To me, however, suicide must invariably be associated, not only with mental depression, but with an actual insanity of the individual for the time being. I would go further than this even, and state, as my opinion, that it is impossible not only for a person to commit suicide, but to commit murder, if he is at the moment in his proper senses. Suicides are invariably maniacs or insane persons, whether that insanity be transient or permanent it matters not. No one can so far contravene the laws of God as to take away his own life without at the time being in a state of insanity. Many circumstances certainly may produce this condition, yet it must in every instance exist, before such a defiance of every natural law can be manifested. It is all very well to talk about the influence of religion in these circumstances, but neither religion nor any other branch of metaphysics can possibly have the slightest effect upon a person who has a suicidal mania. It is a disease of an incurable type, and will never terminate until the victim has gone to render his last account. Of course restraint may be placed upon him, and he may be rendered unable to exercise the inclinations which his mind prompts him to; still the disease exists, and without restraint being placed upon him sooner or later the inevitable will result. Human responsibility is one thing, but that can only apply to a person whose mental powers are in a healthy condition, when this is departed from it is quite absurd to suppose for one instant that a person can be responsible for his actions; therefore, whenever suicidal or homicidal tendency appears to develop in an individual, the first thing for his friends to do

is to seek medical aid, and endeavour, by restraint and confinement, to prevent him accomplishing the purpose which would apparently seem to be dearest to his heart.

*Sulphur* is an elementary body, and is found in large quantities in volcanic countries. A large supply of the sulphur imported to this country comes from Sicily. It is also found in combination as sulphides, such as the sulphide of iron, usually called "iron pyrites," from which both iron and sulphur are extracted. As is well known, this substance is found largely in combination with metals, such as lime, magnesia, copper, etc., and also in the vegetable and animal kingdoms. In the latter it forms a constant element in all substances containing albumen, and this is well demonstrated in the egg, in which, during the process of decomposition, sulphuretted hydrogen is developed, and gives the characteristic odour to rotten eggs. It is also contained in the hair and nails, and can be detected when these are burnt. Sulphur is a very excellent laxative, and at one time was largely employed as a blood purifier, on account of it being supposed to contain some special virtue. The beneficial effects, however, were not due so much to the sulphur as to the traces of arsenic which the flowers of sulphur at one time contained as an impurity. It was the arsenic, therefore, which acted upon the skin, and not the sulphur. As is well known, sulphur is a powerful antiseptic, and when burnt, by the evolution of sulphurous acid which takes place, its beneficial effects as a disinfectant become apparent. In combination with hydrogen the gas developed is named sulphuretted hydrogen, which is soluble to a large extent in water, and conveys to various springs which are charged with it medicinal properties of a very high order, amongst the most noted of which in this country are Harrogate and Strathpeffer. When sulphur is administered as a laxative the dose should be about one to two tea-spoonfuls taken at bedtime. The preferable form in

which to take it as an internal medicine is that of the precipitated or milk of sulphur.

*Sulphuric Acid* is a combination of sulphur with hydrogen and oxygen, and is one of the most valuable commercial products which we possess, as by its action upon various substances many important products are obtained. It has a very strong affinity for water, and as oil of vitriol, which is the popular name for this acid, it is employed as an agent for extracting moisture from various substances, especially from air in the process of the manufacture of ice by Hardy's machine. It is manufactured on a very large scale directly from sulphur, which is burnt in conjunction with nitrate of potash in large leaden chambers, sulphurous acid being at first produced, and this being converted into sulphuric acid by the absorption of an atom of water. As a medicine sulphuric acid is used in a diluted form as a tonic. Poisoning by sulphuric acid, although not often met with, has frequently occurred. Its symptoms are of the most painful description, and in consequence of the caustic effect of the substance, is rarely recovered from. The first thing to be done, when accidental poisoning of this kind takes place, is to administer alkaline substances, such as magnesia, chalk, potash, soda, or even soap, and afterwards give some bland substance, such as oil or milk. In the absence of any alkali, such as have been mentioned, any kind of mortar or lime taken from a wall or any other convenient place should be given, as anything in the shape of an alkali destroys the acid by converting it into a sulphate. The aromatic sulphuric acid, or elixir of vitriol, is a popular tonic when taken in from 15 to 20-drop doses in a wine-glassful of water three or four times a day.

*Sulphuric Ether* is manufactured by the action of sulphuric acid upon alcohol, which produces an oxidation of alcohol and renders it much more volatile, at the same time altering its properties both chemically and medicinally. This substance is perfectly colourless, having a light

specific gravity and being very volatile. Its odour is peculiar to itself, and diffuses itself very rapidly through any apartment in which it may be placed. It is largely employed as an anæsthetic, and by many is preferred to chloroform. It is also prescribed as a diffusible stimulant and antiseptic, and in certain cases of great prostration it is administered hypodermically to prevent collapse. In such diseases as angina pectoris, asthma, hysteria, etc., it is a very useful agent, and may either be inhaled or given by the mouth in from 15 to 20-drop doses in water. Great care should always be taken by anyone handling ether, especially when in the neighbourhood of light, as it is so volatile that its vapour flies off in great quantities, and, being heavier than the atmospheric air, it may float in such a volume as to become ignited and set fire to the liquid or substance with which it may be in contact. In consequence of the rapidity with which it evaporates, it has been employed as a local anæsthetic by means of a spray producer. This, however, produces such a hardening of the tissues that it is not at the present moment very popular.

*Sulphurous Acid* is composed of three parts of oxygen and one of sulphur. Properly speaking, it is a gas held in solution by water. It possesses a strong pungent sulphurous odour, and unless kept in well-stoppered bottles the gas is liable to fly off and leave the water, so that it becomes very much diluted. It is a most useful antiseptic, and is largely employed in consequence of its non-irritating properties. In the form of spray it is applied in sore throat, and as it is produced in the combustion of sulphur it is also employed for catarrhal affections of the air passages, and in disinfecting rooms where contagious diseases have been present.

*Sunstroke*, or Heat Apoplexy, is a congestion of the brain produced by the heat of the sun. The effects of sunstroke are frequently very serious, and often have a fatal result. In every instance the nervous system is so

seriously affected that complete prostration and insensibility take place at the same time. These, if death does not result, invariably leave the mind in an unhealthy condition, in many instances giving rise to a form of insanity or mania which may be permanent, although in many cases it may be recovered from. Individuals of intemperate habits are much more liable to this affection than those who live a temperate life. Constipation is also a condition which superinduces sunstroke; it is therefore imperative that those who are resident or travelling in hot countries abstain from over-indulgence in alcoholic stimulants, and at the same time be careful that the bowels are satisfactorily evacuated every day. The greatest precautions must be taken to shelter the head from the action of the sun by suitable head-gear. Cold baths and exercise in the open air in the early morning are also considered to be preventative of an attack, while the body should be clothed in flannel, and the dress, as well as the covering of the head, made of a material devoid of colour, so that the sun's rays may be reflected instead of absorbed. The symptoms of sunstroke often come on very insidiously. They commence as a rule with headache, giddiness, general prostration, accompanied by sickness and vomiting. The skin becomes hot and dry, the pulse quick at times, but at other times it may be unusually slow, in consequence of the great nervous prostration that exists. The bowels become more than usually costive and the urine deficient in quantity, while there is excessive thirst and high temperature. After these symptoms have continued for some time the breathing becomes oppressed and rapid, and the action of the heart tumultuous or palpitating, after which gradual or sudden unconsciousness will supervene. When this state is developed the eyes are bloodshot and the pupils contracted, the face pale, and the surface of the body dry and hot, after which convulsions may set in and the patient succumb. When death is near the pulse

becomes intermittent, the breathing stertorous, and the pupils dilated. When recovery takes place there is always a tendency to some affection of the nervous apparatus, which may take the form of temporary paralysis, convulsions, or some form of insanity. The greatest variability as to the duration of the symptoms frequently exists—in some cases death has taken place within an hour or two of the attack, while it may occur at a much longer interval. The treatment of the disease consists in first of all having the bowels thoroughly well evacuated simultaneously with the application of ice to the head, or the cold douche if the patient can bear it. It may also be necessary to extract blood by venesection or cupping from the nape of the neck, while the head should be shaved and a fly blister applied to the nape of the neck and over the base of the brain. Blood should be drawn towards the extremities and trunk of the body by means of mustard poultices, while strong tea or coffee, together with ammonia, should be administered to counteract the depressing effects which have resulted, and if there is any difficulty in swallowing these should be administered by means of the enema, while, to act as a rapid stimulant, ether may be injected under the skin. A great many theories have been advanced as to the cause of sunstroke—some of these being that it is largely due to the atmosphere being highly charged with electricity, while others hold that it is the direct effect of the sun acting perpendicularly. It is a strange circumstance that sunstroke seldom occurs in mid-ocean, although it is very liable to produce its effects in narrow seas and close to land.

*Supper*, the last meal of the day, should be always very light in its character, and partaken of about an hour before retiring to rest. Some hold that suppers are hurtful, and certainly they are when they consist of articles which require a considerable amount of digestion; but it will be found that those who partake of a light supper will obtain more refreshment from their sleep, and will sleep more

readily and for a longer period, than if they were to abstain from taking food altogether at that hour.

*Suppository* is a method of administering medicine by the bowel. It is usually composed of cocoa butter made soft by the addition of olive oil, yet possessing a greater consistency than butter. The remedy to be employed is mixed in this and introduced into the rectum. The medicines which are mostly given in this way are—morphia, hamamelis, belladonna, ichthyol, santonine, iodoform, opium, etc. Food is also frequently administered by means of nutrient suppositories. These are specially useful in cases of disease where the stomach is highly irritable and unable to retain food to any extent.

*Suppression* in medical language applies to the cessation of the secretions of certain organs, such as the urine.

*Suppuration* is the formation of pus on or within the living tissue. *See Pus, Abscess, Ulcer.*

*Suspended Animation* occurs from partial suffocation in drowning, hanging, and poisoning from various causes, such as the inhalation of coal gas, carbonic acid gas, sulphuretted hydrogen, etc. In every instance the patient should be kept warm by external heat, and artificial inspiration induced. *See articles on these various subjects.*

*Suture* is a surgical term meaning stitches, which are applied to bring the edges of wounds together. In anatomy the term is applied to the junction that takes place between the bones of the skull.

*Sweat, or Perspiration*, is the fluid which is thrown off by the skin, and is invariably a healthy symptom when it is not excessive. In certain diseases, however, such as consumption, if it is too copious, it forebodes very grave symptoms. When the skin ceases to act it is invariably a symptom of high fever, and it should be the aim of the medical attendant to induce perspiration by lowering the temperature and keeping the body warm, and at the same time administering diaphoretics.

*Sweet Spirit of Nitre* is the spirit of nitrous ether, and is largely employed as an antispasmodic in affections of the bladder. It also possesses diaphoretic and expectorant properties, and therefore enters largely into the composition of diaphoretic and cough mixtures. The dose is a tea-spoonful in a wine-glassful of water.

*Swelling* is an increase in the size of various textures of the body, and may consist either of fluid or solid matter. In the former case it is caused by a congestion of some of the tissues either immediately concerned or in some neighbouring tissue, and invariably arises from an oozing taking place from the veins of the part or parts. Swelling of the leg in dropsy, for instance, arises from some impediment to the flow of blood towards the heart, and usually indicates disease of a very grave nature, either affecting the kidney, liver, or heart. If in the abdomen, when it is named ascites, it usually depends upon some obstruction of the circulation due to serious disease of one or other of the above-mentioned organs. When the swelling takes place on the surface of the body it usually contains pus, and may assume the nature of an abscess, carbuncle, or boil. Swelling may also arise from the infiltration of air within the cellular tissue of the body, and tumours are another cause of this affection. See Tumours, Dropsy, Abscesses, etc.

*Swine-pox* is a variety of chicken-pox, and is characterised by vesicles very similar in appearance to those of chicken-pox.

*Swoon*, or Fainting, usually arises from some mechanical or nervous condition affecting the heart's action. The patient should therefore be laid in the horizontal position, and cold applied to the forehead, together with the fumes of ammonia to the nostrils, and when the patient is able to swallow, a little sal-volatile or brandy mixed with water should be administered.

*Symmetry* is that term which is applied to the human form, and indicates a bi-lateral uniformity of the parts of

the body. The term symmetrical is often applied to a diseased condition when both sides of the body are equally affected. This is characteristic of several skin affections which indicate constitutional weakness, such as the eruptions of syphilis, psoriasis, etc. When a person suffers from certain affections of the nervous system the symmetry of the body is liable to be interfered with, as one part develops while the other remains more or less stationary. Hip-joint disease also affects the symmetry of the body by shortening the limb.

*Sympathetic Nerve (The)* is that which controls the various functions of the body, and is not under the control of the will. The filaments of this nerve ramify alongside those of the sensory and motor nerves, and doubtless to it is due the functional activity of the various organs, as well as the relaxation and contraction of the arteries. Reflex action—that is to say, when one portion of the body, being irritated, has this irritation conveyed to another portion—is due to the action of the sympathetic nerve. The large ganglia of this branch of the nervous system which lie behind the stomach are evidently largely concerned in the mental emotions, such as grief and joy. It is probably due to the action of the sympathetic nerve that counter-irritation produces its beneficial effects.

*Symptoms*, as applied to medicine, are those conditions which enable the physician to make his diagnosis. They are said to be subjective and objective—in the former the symptoms being described by the patient himself, whereas in the latter they are arrived at by examination made by the physician. Amongst the former may be mentioned pain and the various sensations which the patient experiences in the progress of disease; in the latter the physician obtains information by the use of the speculum, sphygmograph, stethoscope, and chemical tests applied to the urine, etc. It is always wise in endeavouring to diagnose disease to go regularly to work, inquiring in a methodical manner

the various train of symptoms that follow upon the supposed cause of the disease. In many instances it will be necessary to treat symptoms with a view of ascertaining their origin, and at the same time relieving these without necessarily curing the disease. This plan of action is specially necessary in malignant diseases where a cure is impossible. In every instance, however, the symptoms should be so focussed as to enable the physician or surgeon to come to a correct conclusion as to the nature of the disease, with a view to having it removed. *Refer to Diagnosis.*

*Syncope* is a severe form of fainting, and may terminate in death, especially if it is due to organic mischief within the heart or lungs. With a view of averting a fatal issue, the patient should be treated very much in the same way as is described in fainting, but more energetic measures may be necessary, such as the application of electricity, artificial breathing, or the subcutaneous injection of ether or brandy.

*Synovia*, or Synovial Fluid, is that which is secreted by the synovial membrane of the joints, and acts as a lubricating agent, permitting the cartilaginous substances of the bones to move over each other without friction. It contains a considerable amount of albuminous material, together with an oleaginous-looking substance, and is popularly known as joint oil. When this membrane becomes inflamed the fluid is apt to be secreted in excess, and give rise to swelling of the joint. This is specially noticeable in what is popularly known as housemaid's knee. When the joint becomes organically diseased, however, a chronic form of this inflammation exists, and is usually accompanied by a degeneration of the tissues composing the joint, and this is specially noticeable in the knee-joint, when it is known as white swelling.

*Syphilis* is one of the most loathsome diseases that we have been called upon to treat. It is invariably the result of an impure life, and unfortunately does not confine its

ravages to the individual who has contracted the disease, but is liable to be communicated to those who are innocent, and to successive generations. In its primary condition it manifests itself by the appearance of a pustule or ulcer at the part which has become inoculated. If it is detected in its very earliest stage it may be destroyed by the application of a strong caustic, while the bowels should be kept active by means of gentle aperients. When the disease has advanced beyond the reach of local measures it is made apparent by the fact that the glands in the immediate neighbourhood of the original sore become enlarged and tender, after which various manifestations develop within the system at large, such as sore throat, falling out of the hair, eruptions upon the body, etc. The more serious symptoms may then develop, such as iritis, when the eyesight becomes imperilled, and actual eating away of certain of the tissues, such as the nose, ear, etc. When once syphilis has gained possession of the blood it is impossible to eradicate it without the employment of mercury administered internally, afterwards followed by iodide of potassium, although it has been stated that certain vegetable substances have a specific effect in the elimination of this disease. In every instance no time should be lost in consulting a competent medical authority, so that the most energetic measures may be taken.

*Syringe* is an instrument employed for the injection of fluid with a view of cleansing certain cavities of the body, such as the ear, vagina, bowel, etc.

*Systole* is the contraction of the various cavities of the heart, whereas *diastole* is relaxation of these chambers.

*Tabes* is generally applied to a wasting of the mesenteric glands; the term, however, is also applied to any other diseased condition which causes atrophy or wasting of any portion of the body. As the term is generally employed, however, viz., in "tabes mesenterica," it gives rise to what

is popularly known as consumption of the bowels, and the disease is always attended by a wasting of the flesh, so that the patient becomes very much attenuated in consequence of the glands being unable to absorb the chyle which has been produced in the process of digestion. This disease is invariably a symptom of tuberculosis, and in children, where it usually occurs, the belly becomes very much swollen and hard, the stools copious and very offensive, and the temperature of the body is always above the normal. It is a curious fact that children who have a tendency to this disease have an inordinate appetite, especially have they a craving for farinaceous food. Now it would appear that starchy food is highly prejudicial to such patients, and therefore they should not be permitted to indulge in it. Amongst the first symptoms which manifest themselves in this disease are a craving for potatoes and white bread, and in many instances for stimulants also—the appetite in fact becomes depraved—after which the child will complain of pains in the bowels, together with a feeling of fatigue on the least exertion, while there will be more or less fever, especially at night. Wasting will then begin to manifest itself, and this will be progressive unless the disease be checked. On looking at the stools these will be found to be very irregular in their character, sometimes being relaxed, and at other times constipated. They will contain a granular-looking substance, and their odour will be very offensive. The disease is also accompanied by a fretful and irritable condition of the temper, with a tendency to change colour very much, especially in the evening, and possibly there will be a heavy, disagreeable perspiration during sleep. As time advances the emaciation becomes more and more marked, the limbs especially being attenuated, while the abdomen, as has been before stated, becomes very much distended. It is not necessary, however, that this disease should be fatal, as by attention to the diet and the administration of muriate of calcium it

can, in many instances, be completely eradicated. The first symptoms of recovery are an improvement in the condition of the stools and a taking on of flesh. Milk should invariably enter largely into the diet of children who are prone to this disease, while starchy food should be denied them to a large extent. Animal food and eggs may also enter largely into the dietary, while the child should be removed to a healthy climate, so that he can enjoy an abundance of sunshine and fresh air; and the apartment in which he sleeps should be large and airy. Flannel should be worn next the skin, and sleep encouraged as much as possible. Cod-liver oil and the compound syrup of the hypophosphites, together with malt extract, have all been recommended in the treatment of this, at one time, fatal disease. Besides giving cod-liver oil internally, it has also been recommended to have it well rubbed into the belly twice a day; but beyond doubt the specific for this disease is the muriate of calcium, which should be given in doses varying from four to ten grains, according to the age of the child, three times a day after meals. In certain instances this can be combined to great advantage with Allen and Hanbury's byno-hypophosphites, and, if necessary, also with cod-liver oil. If this treatment is persistently carried through the disease will certainly not advance to a very considerable extent, and benefit will very soon be apparent in the condition of the patient.

*Tamarinds* are the fruit of a leguminous tree which is a native of India and other warm climates. The fruit is employed largely as a slight laxative, and, as it is pleasant to take, is specially useful in constipation, which so frequently exists in children.

*Tannin and Gallic Acid* are the active principles which give the astringent properties to the gall nut, oak bark, and other astringent barks. The former is a yellowish powder, while the latter crystallises in white, silky-looking flakes. Both are soluble in water, and are employed in medicine to

a considerable extent in internal hæmorrhages. Gallic acid in eight-grain doses, combined with fifteen drops of the elixir of vitriol, may be given every two hours in half a wine-glassful of water, and may also be administered in the form of pill in small doses. Tannin and gallic acid are also given in the form of suppository, and applied as external styptics, and are thus useful for arresting hæmorrhage from wounds. Tannin mixed with glycerine is frequently employed as an astringent in relaxed sore throat, when it should be painted upon the tonsils every hour or two.

*Tape-worm* is one of the parasites which infest the intestines of various animals. That found in man is generally due to the eating of raw or under-done meat, which contains the larva of the worm. It cannot develop from the egg within the human intestine, it being necessary to its development that the egg be taken into the stomach of some herbivorous animal, such as the pig, sheep, or ox. Within the stomach of any of these animals the egg becomes developed into a small object called an echino coccus. This little body is provided with a boring apparatus, by which it penetrates through the coats of the stomach and enters the circulation, and locates itself in one or other of the fibrous tissues of the animal, where it remains encapsuled for an indefinite period, its cycle of existence being arrested. When the animal is eaten, and the flesh containing this echino coccus taken into the human stomach, a further development of the parasite takes place until it reaches its adult existence, this being the tape-worm, which attaches itself by means of two hooks, situated on its head, to the mucous membrane of the bowel, from which it grows downwards, attaining a length of twelve feet in many instances. The segments of the worm, at the lower portion, are constantly being thrown off, and appear in the stools; but until the head is detached the cure cannot be said to be complete, as it retains the

power of still developing fresh segments, each of which contains the generative organs of both sexes. Each segment, therefore, is a bi-sexual organism capable of producing the fertilised eggs, which may at a future time give rise to a complete specimen of the tape-worm. Amongst the many remedies which have been advocated for the cure of tape-worm are—pomegranate bark, cusso, oil of malefern, chloroform water, but the best of all, and probably the most recent of introduction into the pharmacopoeia, is naphthaline, which seems to act as a direct poison to the parasite. Chloroform water, which is a saturated solution of chloroform in water, is also a very useful agent, and seems to have a paralysing effect upon the worm, so that it loses its hold upon the mucous membrane of the intestine, and can be cast off by means of a purgative. *See Naphthaline, Pomegranate.*

*Tapioca* is for the most part composed of starch, like sago. It is manufactured from the root of a shrub which is cultivated chiefly in the West Indies. The root of this plant contains a juice called "bitter cassava," which possesses narcotic poisonous properties. This bitter juice is thoroughly removed by washing, and the starch or tapioca is dried in the form of granules or grains, and thus prepared for the market. Combined with eggs and milk it forms a very highly nutritious article of diet. An imitation of this substance is frequently made from potato starch, and is equally wholesome with the foreign product.

*Tapping* is an operation which is employed for the removal of fluid which has collected in any quantity in any of the cavities of the body, such as the pleura and abdomen. It is had resort to for the removal of fluid from the scrotum when hydrocele is present, and also to remove a superabundance of fluid from joints and abscesses of large dimensions.

*Tar and Pitch* are obtained chiefly from the fir tribe of plant by a process of distillation. Tar has been for a long

time employed both internally and as a local application, and, as may be inferred from the fact that it resembles creosote and carbolic acid, it possesses powerful anti-septic properties. At one time it was largely given in affections of the chest, such as bronchitis and consumptive disease. It is more importantly employed, however, in the treatment of catarrhal affections of the mucous membranes, which are to a large extent, if not altogether, due to a rheumatic state of the system. The best and most easily administered preparation of tar for this affection is the glycerate of tar, which is prepared by a process of percolation in combination with glycerine and alcohol. At one time tar was largely employed in the treatment of certain skin diseases, such as eczema and psoriasis, but now it has been very much superseded by more energetic applications, such as chrysophanic acid, chrysarobin, etc.

*Tarantula* is a large spider common in Southern Europe, which possesses a venomous bite very closely resembling the sting of the scorpion. The pain caused by the bite is doubtless due to the fact that formic acid is injected into the wound, for which the application of some alkali, such as potash, soda, or lime, is the best remedy that can be used.

*Taraxacum* is the technical term given to the dandelion. In the form of liquid extract it is largely employed in the treatment of sluggish liver, the dose being one tea-spoonful, and that of the solid extract about fifteen grains, three times a day.

*Tartar on the Teeth* is a deposit of limy salts, and is always the result of want of cleanliness on the part of the individual.

*Tartar Emetic*, or *Tartarised Antimony*, is a medicine which at one time was largely administered in febrile attacks. It has a powerfully depressing effect upon the heart's action, and possesses also expectorant properties. It is not now nearly so much used as it was in former times. The usual mode of administering it is in the form

of antimonial wine, which may be given in from ten to twenty-drop doses every three hours, combined with some other expectorant. When given in a powder half a grain is a fair dose. It must be taken with considerable caution, as it is a deadly poison when given in too large doses.

*Tartaric Acid* is a vegetable acid, and is the characteristic acid of the grape, from which it at one time was altogether procured. It exists in fruits in combination with potash as bi-tartrate of potash or cream of tartar, and is met with both in the form of crystals and powder, generally the latter. It is largely employed in the production of effervescent drinks, and it is one of the component ingredients of seidlitz powders. It may also be employed as a solvent for quinine, just as elixir of vitriol is used for the same purpose.

*Taxis* is the operation, or rather method, which is employed for the reduction of a rupture of the bowel. It may be used either with or without chloroform, but if this mode of treating hernia does not succeed it will then be necessary to resort to operation.

*Tea*, as is well known, is one of the most popular beverages that is partaken of by man. Although the plant was originally a native of China, it is now cultivated very largely both in India and Ceylon. The varieties which are imported to this country are very large indeed, and the blending of the different kinds of tea is an art of considerable delicacy, and requires a great deal of training to enable it to be done satisfactorily. Tea possesses stimulating and invigorating properties, but at the same time there is contained within the leaf both resinous and astringent substances, which not only render the tea less palatable when they are admitted into the infusion, but at the same time make the infusion prejudicial to the stomach, and therefore liable to give rise to indigestion. The proper method of infusing tea is to permit the infusion to go on only for four minutes at the outside. In this way all the

aroma and stimulating properties of the tea are extracted, while the extractive and astringent matters are left behind. How people can possibly drink tea which has been infused not only for several minutes, but even for hours at a time, without feeling the bad effects of it very rapidly and injuriously, is a mystery. There is one thing about tea drinking which cannot be gainsaid, viz., that when partaken of in excessive quantities and after long infusion it is answerable for a considerable amount of the dyspepsia which exists. A poultice of tea leaves is an excellent remedy in arresting styes upon the eye, and this is probably due to the fact that it contains tannin, which acts as an astringent upon the part. There is no doubt that tea acts as a direct stimulant to the heart's action, and is therefore useful in cases of great depression, especially after shock, and in any condition in which the nervous system suffers unduly.

*Tears* are the secretion of the lachrymal gland, which is situated within the orbit. The fluid is saline, and is nature's medium of keeping the eye moist and clearing away any foreign matter that may enter between the eyelids. The secretion is constantly passing over the front of the eye-ball, keeping it clear, bright, moist, and free from any extraneous matter. It also acts to a certain extent as a lubricant to the eye-ball, thus obviating friction. The tears, after flowing over the eye-ball, are drained away by two little ducts, one on the upper and one on the lower lid, situated near the angle next the nose. These ducts lead into the nostril, and thus the tears are got rid of. An increased secretion of tears is an instance of the effects of the mind upon the body, and is influenced entirely by the sympathetic nerves. Sometimes the lachrymal ducts become more or less occluded by inflammatory action, in which case the tears flow over the cheek, and when this exists it may be necessary to dilate the ducts by means of probes, or even lay them open so as to permit the tears to obtain a free passage.

*Teeth.* The teeth of the human adult are thirty-two in number, while in the child they are only twenty. In the child there are four incisors, two canine, and four molar teeth in each jaw, the last not usually being cut until about the second year, when the milk teeth are generally all through the gums. About the sixth or seventh year these teeth are all shed, when the child gets its first permanent molars, usually called the six-year-old teeth. These do not occupy the sites of the old teeth, but break new ground for themselves. The teeth are divided into the crown and roots, the former being covered with enamel, while the latter are covered with periosteum. Within the teeth is the pulp, which resembles very much the hollow of bones in which the marrow is contained. Within the pulp circulate the blood-vessels and nerves, and it is when decay of the teeth exposes this substance that toothache is liable to set in, in consequence of the nerve being exposed and acted upon by irritants or by the products of decomposition which are being generated in the tooth itself. The enamel of the tooth is composed almost entirely of mineral constituents. It covers the entire portion which is exposed above the gums, and is beautifully constructed of minute hexagonal rods placed side by side, and so closely fitting together as to produce a uniform vitreous-looking surface. In consequence of this structure the enamel is enabled to bear considerable pressure, which it has to sustain in the process of mastication. The dentine or ivory of the teeth, which constitutes its greater bulk, and on which the enamel rests, is composed of numberless branch tubes, which radiate from its central cavity. Through these tubes the fluids of the teeth permeate, while the root of the tooth very closely resembles bone in its structure, and, as has been remarked, is covered by periosteum just like bone. The tooth is not inserted into the jaw direct, but into a process of bone called the "alveolar" process, which holds the tooth in position and forms the foundation for the gums. The

teeth, in the first instance, are formed within this alveolar process, and are enclosed in their embryo state in capsules, from which they sprout, as it were, very much like a plant would sprout from its seed. Many diseases in children are—if not directly due to teething, which seems to give rise to considerable nervous disturbance within the infant—at least attributable to the process to a considerable extent, in consequence of the sensitive nervous organism of the infant; hence febrile disturbances, and not unfrequently convulsions, may be said to have their origin in difficulty in the process of dentition. In the infant the teeth are developed very much in accordance with the following table:—

## TEMPORARY TEETH.

7th month—Two middle incisors.	12th month—First molars.
9th „ —Two lateral incisors.	18th „ —Canine.
24th month—Last molars.	

## PERMANENT TEETH.

6½ year—First permanent molars.	11th, 12th year—Canine.
7th „ —Two middle incisors.	12th, 13th „ —Second permanent
8th „ —Two lateral incisors.	molars.
9th „ —First bicuspids.	17th, 25th year—Third or last per-
10th „ —Second bicuspids.	manent molars, or wisdom teeth.

When the teeth show symptoms of decay it is of the utmost importance that they should be attended to without loss of time, and indeed it would be well if those who could afford it were to consult a dentist at frequent intervals with regard to their teeth, so that the very approach of decay may be detected and rectified before any injury has been done. To prevent the formation of tartar the teeth should be brushed regularly every morning, and an alkaline powder employed at the same time. Probably one of the best tooth powders that can be recommended is ordinary calcined magnesia. Of course the natural process of mastication will prevent the formation of tartar to a very large extent; but this is not sufficient to prevent its being deposited in certain quantities, and this is made very

manifest when one observes the teeth of anyone who has any sensitive spot on one side of the jaw, and therefore avoids chewing with that side, a deposit of tartar taking place upon the unused teeth very rapidly, and sometimes to a very large extent. Toothache is one of the most aggravating sources of pain that one could possibly imagine, and when the disease has gone to such an extent as to render the tooth useless and beyond hope of recovery the best cure is the radical one of having it extracted with as little delay as possible. The progress of civilisation has so much reduced the size of the human jaw, while the number of teeth remain the same, that it would appear we have too many teeth for the room which they require. It has therefore been recommended, and I think wisely, that when the teeth appear to be too crowded in young people, to have the four bicuspids removed, although they are in a healthy condition ; by doing so the other teeth get room, and thus a very potent cause of decay—viz., absorption from pressure of the teeth against each other—is removed. In a year or two after the removal of these teeth it will be found that the gap can be barely discerned, in consequence of the other teeth having spread out, and thus the contour and appearance of the mouth is not altered for the worse, but rather improved. Parents and guardians should be very particular in their instructions to the children in their charge with reference to the care of their teeth, as so much depends upon a healthy and sound state of the teeth. In indigestion it is necessary that, if the teeth have been lost, their place should be supplied by artificial ones, so as to enable mastication to be accomplished as perfectly as possible ; many instances of indigestion being due to nothing else than the inability of the person to masticate properly.

*Temper.* See *Passion.*

*Temperament* is a term which has been employed from the most ancient period in medical science, and indicates

the peculiar idiosyncrasies of the individual, such as nervous temperament, phlegmatic temperament, sanguine temperament, etc.

*Temporal* is the region of the head which is situated in the temples, and gives the name to the nerve and artery supplying this region.

*Tenaculum* is a surgical instrument shaped like a hook which is attached to a handle. It is employed for pulling forward the different tissues that require to be handled or fixed in one position for various purposes.

*Tenderness* of any portion of the body is a symptom which is always regarded as important in the investigation of disease. It is a curious circumstance that pressure when applied gently and firmly upon a part suffering from spasm, such as for instance in colic, will frequently give relief to the pain, whereas, if the pressure is brought suddenly to bear upon the part, it will, in the majority of instances, excite the pain.

*Tendo Achillis* is that strong tendon which is attached to the large muscles of the calf, and connects them with the heel bone, and forms a powerful band which is felt behind the ankle. It is liable to suffer from the effects of strain ; and in consequence of its importance, and being constantly brought into use in the act of walking, it is liable to give considerable uneasiness, if not actual pain and lameness, as it will not recover if it is not given absolute rest, and even then will take a considerable time before its health is restored. In these circumstances it is liable to swell or become thickened, and softening of its structure takes place in consequence of the presence of inflammation in the part. A blister applied over the seat of the thickening will probably act very beneficially in a short time. If the strain upon the tendon has been very sudden and unduly severe it may result in actual rupture, when of course considerable difficulty will be experienced in keeping the ruptured ends in position. This can only be

done by suitable appliances by which the muscles are kept thoroughly relaxed until union takes place, or the tendon may be cut down upon with antiseptic precautions and the two ends brought together by sutures or stitches, while the patient will require to be kept perfectly at rest until complete union takes place.

*Tendons* are those strong fibrous bands by which the muscles are attached to the bone, and are popularly termed "leaders." Tendons are liable to injury either by over-strain, whereby rupture may result, or if not, inflammation set up in the part, which always produces severe pain on movement, and consequently lameness. When rupture or division by a wound takes place the portion of the limb immediately below is helpless. If the part has been strained the tendon will become thickened and sensitive to the touch ; the treatment in this case consists in perfect rest, together with the application of a fly blister over the part. If rupture or division from any cause is present, the parts must be relaxed so as to enable the divided ends to come into position, and the limb fixed by a proper bandage or splint until union is completed.

*Tenesmus* is another word for straining at stool. It is an involuntary effort to empty the bowel, and is an indication of the lower portion of the gut being in a state of irritation, such as is the case in dysentery, diarrhoea, and haemorrhoids.

*Tent* is a piece of porous material which has been thoroughly dried and compressed, and which, on being introduced into a canal, by absorption of moisture becomes swollen, and thereby distends the aperture. These are made principally of sponge and sea-tangle. Their most frequent employment is in the treatment of contraction of the canal of the womb.

*Terebine* is produced from turpentine by the action of sulphuric acid and heat. It is a colourless, volatile fluid having a rather pleasant resinous odour. It is much employed in bronchitis, when it may be given in from 5

to 10-drop doses on a piece of sugar at frequent intervals. It is also employed in the treatment of inflammatory affections of the air passages by inhalation. It has been used as an antiseptic in the dressing of wounds, but is superseded by more energetic and more stable antiseptics.

*Tertian.* See Ague.

*Testicles* are the organs of the male which are represented in the female by the ovaries. They are liable to inflammatory attacks, which are accompanied by swelling and severe pain. This requires to be treated by leeching, fomentations, poultices, and rest in bed, while the organs are supported by means of a towel pinned round the upper portion of the thighs, and the inflamed parts raised up and permitted to rest upon this. Afterwards a suspensory bandage will require to be worn, so as to give support to the greatest possible extent. These organs are liable to disease of a malignant type, and are not unfrequently the seat of cancer, when of course their removal will be a necessity.

*Tetanus*, or Lockjaw. See Lockjaw.

*Tetter* is the term which has been applied to various forms of skin disease.

*Theine* is the active principle of tea, and is analogous to caffeine, which is the alkaloid of coffee. It exerts a powerful stimulating effect upon the heart's action. It may also be usefully employed in the treatment of neuralgia, the dose being from one to two grains every two or three hours.

*Therapeutics* is the term applied to the art and science of the treatment of disease by medicinal means.

*Thermometer*, or Measurer of Heat, is largely employed now in the diagnosis of febrile conditions. By its employment a great advance has been made in medical science. When otherwise it would be impossible to diagnose the presence of fever, the thermometer indicates this with the greatest precision, thus enabling us to adopt measures for the reduction of febrile heat. Before its employment a

high temperature could not have been demonstrated. By its use, and the knowledge it affords, the debilitating effects of a high temperature can be averted, as it suggests the judicious administration of antipyretics. The normal temperature of the body is about  $98\cdot 4^{\circ}$ , while in fevers it may rise to  $106^{\circ}$ , or even higher. In collapse the temperature of the body falls as low as  $80^{\circ}$ , or even lower, which of course always indicates symptoms of the greatest gravity. The clinical thermometer is an instrument which is easily understood, and should be in the possession of everyone, so that on the least suspicion of fever arising it can be resorted to, and thus indicate the necessity of calling in the medical attendant. No time should be lost in doing this if the thermometer indicates a temperature of  $100$  degrees.

*Thigh* is that portion of the lower limb which is supported by the femur, this being the largest bone in the body. It is articulated with the hip and the knee. It is made up of this bone and of large muscles, the principal of which are the quadriceps—extensor-femoris. It is a portion of the body which, from a surgical point of view, is of the greatest importance, containing as it does the large blood-vessel called the femoral artery, and the largest nerve of the body named the sciatic. The groin, which is the junction of the thigh with the body, is of considerable importance from a surgical point of view also, as wounds in this region are exceedingly dangerous, in consequence of the femoral artery and vein passing through it. The thigh, or femoral bone, is liable to fracture in any portion of its extent; but being a single bone, and of considerable diameter, it is easily set if it is attended to by a competent surgeon.

*Thirst* is a prevalent symptom of fever, and can be less easily withstood than hunger. It is not, however, always wise to quench the thirst of an invalid to his full desire, and it is preferable on this account to endeavour to

keep the mouth cool by means of ice rather than permit the patient to imbibe too much water.

*Thorax* is the cavity of the chest.

*Thorn-apple*, or *Datura Stramonium*, is an annual plant, and grows about four feet in height. The apple, which is the most conspicuous part of the plant, attains the size of a walnut, and is covered with prickles. It is largely employed in the treatment of asthma, when it is smoked like tobacco from a pipe. Its medicinal value is due to the fact that it contains an alkaloid very similar in its properties to that of belladonna.

*Thread-worm*, or *Ascarides*, is a human parasite which occupies the rectum principally. They appear like small pieces of thread, are liable to escape from the anus and create irritation around this part. In females sometimes they enter the vagina, and there give rise to considerable disturbance and irritation. The best treatment is an injection of common salt in solution, repeated every day for a fortnight, whereby the worms are sickened and brought away as they come to maturity. It is useless to attempt the cure of thread-worm unless the treatment is continued consecutively for at least a fortnight, as the worm requires to be destroyed immediately it issues from the egg ; otherwise they will continue to develop if they are permitted to deposit their ova within the intestine.

*Throat* comprises that portion of the alimentary canal between the fauces and soft palate. It is liable to many diseases, such as congestion, quinsy, diphtheria, scarlatina sore throat, aphtha, etc. It is also liable to neuralgic affections, when the ordinary treatment of neuralgia should be adopted. If quinsy is threatening it should be attacked by gargling the throat with an astringent gargle, such as the following :—Glycerine of tannin, 1 ounce ; sulphurous acid,  $\frac{1}{2}$  ounce ; acid infusion of roses to make 8 ounces—the throat to be gargled every hour ; while the following mixture should be administered :—Salicine and chlorate of

potash, of each  $2\frac{1}{2}$  drachms ; guaiacum mixture to make 6 ounces—a dessert-spoonful of which should be taken every two hours. In diphtheria powerful disinfectants should be applied to the throat at frequent intervals, while the system should be well kept up by stimulating nourishment.

*Thrombus*, or Embolism, is a clot of blood which forms within the heart and escaping into an artery, which it blocks, and thus prevents blood being conveyed to the part supplied by this vessel. It is also applied to a tumour formed by blood which has escaped into the surrounding tissues from a ruptured vein.

*Thrush*, or Aphtha, is an indication of an acid condition of the alimentary canal, and is distinguished by small white spots upon the throat, palate, and tongue. Its existence is due to a fungoid growth upon these parts where the spots appear.

*Thymol* is an antiseptic which is used to a considerable extent in the dressing of surgical wounds.

*Thymus Gland* is that gland which is situated behind the upper portion of the breast-bone. It is larger in infancy than it is in adult life.

*Thyroid Gland*, when in a healthy condition, would seem to have a powerful influence on the nutrition of the skin, and in certain diseases of the epithelial structure both of the skin and mucous tissues. In goitre and cretinism, as well as in myxoedema and certain affections of the womb, this gland is invariably in an unhealthy condition. In consequence of the relationship of the thyroid gland to the diseases above mentioned, this substance taken from healthy animals has been extensively employed in the treatment of these diseases, and with most satisfactory results.

*Tic-douloureux* is the name given to neuralgia of one side of the head, generally situated in the temporal nerve. It is characterised by its paroxysmal attacks, which occur at regular intervals or at regular hours. It can generally

be alleviated by the administration of eight grains of phenacetine combined with two grains of caffeine, while the neuralgia is being treated by means of quinine, given in two-grain doses every four hours, at the same time that a nourishing diet is partaken of.

*Tight-lacing* is a most pernicious practice, as by it the development of the pelvis is interfered with, and thereby constricted. In consequence of this its capacity is limited, and in child-bearing this is made most apparent by causing great difficulties in parturition.

*Tinctures* are solutions in alcohol of medicinal substances which have been infused in this liquid, such as tincture of arnica, spirits of ammonia, spirits of camphor, tincture of calumba, tincture of cardamoms, tincture of catechu, compound tincture of camphor or paregoric, essence of ginger, tincture of ginger, tincture of henbane, liquid extract of hamamelis, tincture of muriate of iron, tincture of perchloride of iron, tincture of myrrh, tincture of opium or laudanum, tincture of valerian, tincture of rhubarb, tincture of squill, tincture of sumbul, etc., etc.

*Toasted Bread*, in consequence of the destruction of starch which takes place in its preparation, is prescribed in the dietary of patients suffering from diabetes. It is frequently infused in water and given as a drink to those suffering from fever to quench the excessive thirst.

*Tobacco* occupies the position of being both an article of luxury, a medicine, and a poison. An excessive indulgence in tobacco invariably produces depression of the heart's action, and may develop disease of very serious import. It also frequently develops amaurosis or paralysis of the optic nerve. As a medicine it is useful in the treatment of asthma. When employed as a luxury, either tobacco or snuff would appear to have at first a slightly stimulating and then a soothing effect, so that they are not at all prejudicial to health if indulged in moderately. It is a powerful antiseptic, and this is demonstrated

most forcibly by the fact that rarely do the employees in tobacco manufactories suffer from epidemic disease.

*Toes* are liable to bunions, corns, fractures, and in old people are frequently the seat of the commencement of senile gangrene. Bunions are an inflamed condition of the bursæ covering the joints, while corns are an excessive development of the cuticle covering the joints. In fractures of the toes a splint is not necessary, as the fractured ends can be kept in position by binding the neighbouring toes together along with that which is fractured.

*Tongue*, or the Organ of Speech and Taste, is made up of muscular fibre covered with mucous membrane and cellular tissue, with which is mixed a certain amount of fat. It is a most vascular organ, containing a large number of blood-vessels and nerves. It is covered by a dense tenacious mucous membrane, which is continuous with that of the mouth and throat, and on which are situated the papillæ, upon which are distributed the nerves of taste. Sometimes these are very much enlarged, and can be seen as elevated spots at the back part of the tongue. The tongue is attached to the lower portion of the mouth by a band of fibrous tissue, called the "frænum." At the back, or base, the tongue is attached to a small bone, called the "hyoid." This organ is liable to many diseases—such as inflammation, ulceration, and cancer, and it has also been frequently the seat of neuralgia of a most painful description. By means of the tongue the condition of the digestive organs can be readily ascertained, while it also gives indication of general disturbance of the system at large. When the tongue becomes swollen, and this is accompanied by a catarrhal condition of the mucous membrane of the throat, it may be surmised that the stomach is likewise affected; while a dry tongue always indicates considerable prostration of strength. When inflammation of the tongue, or glossitis, is present, the organ may become so swollen as to protrude from the mouth and threaten

suffocation. The best remedy in these circumstances is to incise it deeply so as to promote copious bleeding, and thus diminish its size by relieving the congestion. Ulcerations of the tongue should be treated by the application of the glycerine of borax and chlorate of potash, while the stomach disorder which has given rise to it should be simultaneously treated. Frequently ulceration of the tongue arises from the irritation produced by its constant contact with the rough surfaces of decayed teeth, or stumps of teeth. These should therefore be filed down, so as to remove the roughness of their edges. Cancer of the tongue can only be relieved by operation, when the organ should be removed, or at least the portion of it which is affected by the disease. In every instance, as is well known, the condition of the tongue gives valuable information to the medical man in the diagnosis and treatment of disease. A dry tongue in the morning generally points to the fact that the individual has been sleeping with his mouth wide open, and this circumstance is liable to prevent a prolonged and refreshing sleep. The habit, therefore, of sleeping with the mouth shut, and breathing through the nose, should be cultivated by everyone, as thereby sleep is prolonged, and is also much more refreshing. When feverish conditions exist the tongue invariably becomes coated with a white fur, and when prostration results, in consequence of this, it is liable to become dry and horny to the touch. A great deal of information as to the state of the patient may be derived from the condition of the tongue. In scarlet fever it invariably presents a strawberry appearance, and this in itself may frequently enable the physician to suspect the presence of this disease. When the tongue is very clean and red it generally indicates a considerable amount of stomachic and intestinal irritation. This condition also exists in an irritable mucous membrane, which is usually due to a rheumatic condition of the system, and is generally accompanied by a very relaxed state of the throat, in which

circumstances there is always a tendency to take cold very readily, in consequence of the chronic catarrh which exists in the mucous membrane. When the tongue is protruded, and diverges to one side more than the other, it is an indication that paralysis of one side of the body exists, so that the appearance and movements of the tongue constitute most valuable evidence in the diagnosis of disease.

*Tonics* are medicines which are given with the intention of promoting nervous tone, thereby conveying to the various organs a vigour conveyed through the nervous system. Tonics are generally believed to be only applicable to certain conditions of health which produce debility by an inefficient action of the stomach. This, however, is not invariably the case, as tonics can be prescribed which will affect various organs individually—such as a tonic for the stomach, for the liver, kidneys, or womb, etc. The most useful tonics which are known are those which exert a specific action upon the nervous apparatus—such as strychnine, quinine, zinc, the mineral acids, the bitter infusions, tinctures, etc. No medicine, however, can be considered a tonic which does not act in the first instance upon the nervous apparatus which supplies the organ intended to be influenced. Of course, beyond medicine, many things act as tonics, amongst which may be mentioned a wholesome and easily digested diet, a regular regimen as to hygienic measures, change of air to the country or to the sea-side, rest from business, accompanied by relaxation of one kind or another—such as golf, cricket, fishing, shooting, hunting, all of which are tonics when taken advantage of in their proper places.

*Tonsils* are the glands which are situated at each side of the throat, and are enclosed in the pillars of the fauces or soft palate. These glands secrete a tenacious mucous fluid, and in consequence of the tenacity of this fluid it is liable to entrap certain substances in their progress towards the stomach, among which may be mentioned

the germs of certain diseases, such as scarlet fever and diphtheria. Thus, in consequence of this mucilaginous secretion, the tonsils are frequently affected in contagious or infectious diseases. Doubtless it is through the tonsils that diphtheria finds its entrance to the system at large. The tonsils are also liable to inflammation, which may in many instances proceed to suppuration or quinsy. This condition should always be looked upon with suspicion, as it almost invariably indicates a rheumatic tendency of the individual; in short, quinsy may with perfect safety be looked upon as an indication of a tendency to acute rheumatism or some other rheumatic affection. It is a disease, however, which need never establish a footing, but may always be combated by the physician insisting upon the bowels being kept open every day, while the following mixture should be taken at regular intervals of two hours:—Salicine and chlorate of potash, of each  $2\frac{1}{2}$  drachms; guaiacum mixture to make 6 ounces—a dessert-spoonful to be taken every two hours; and the throat should be gargled with sulphurous acid and water at frequent intervals also. In many instances the tonsils become chronically enlarged in consequence of some slight inflammatory attack having located itself within these glands. If this does not subside by the frequent application of the glycerine of tannin it is possible the tonsils may require to be excised. This operation, however, is entirely devoid of danger, and can be accomplished without pain. It is extraordinary what an influence the muriate of calcium, combined with the syrup of the iodide of iron, has upon enlarged tonsils; for a child ten years old 6 grains of the former with 15 drops of the latter may be given three times a day in water, with considerable benefit.

*Toothache* is a painful, aggravating, peace-disturbing affection, but as it is never attended with any danger to life it is generally viewed with contempt by all beholders. The best remedy for toothache, if the disease has proceeded

to any great extent, is to have the tooth extracted—this, of course, goes without saying ; but, on the other hand, if extraction is not thought advisable, the pain may be assuaged by first of all having the cavity of the tooth thoroughly cleansed by means of cotton wrapped round the end of a piece of matchwood and swabbed out by a solution of carbonate of soda, after which a pledget of cotton wool may be introduced, having been first saturated with a solution of carbolic acid, or a ten per cent. solution of cocaine. A dose of medicine as a rule, proves very efficacious in relieving the pain from toothache, and this is especially the case with children.

*Torpor* is a condition of semi-coma, and always indicates some injury to, or disease of, the nervous system. If it is impossible to rouse a patient from the state of torpor into which he has fallen, either as a consequence of disease or the administration of a narcotic, the greatest fears may be naturally indulged in. *Torpor*, in fact, is another name for torpidity of the nervous system, and this, as is well known, is either due to the direct action of poison or of disease.

*Total Abstinence.* See Stimulants.

*Tourniquet* is an instrument used for compressing arteries where bleeding exists or is threatening in the course of an operation. Several forms of tourniquet are employed, the old style being composed of a pad attached to a strap which buckles round the limb, the pad being brought to bear upon the artery. The most approved instrument of the kind now is composed of a strong elastic band which is fastened tightly round the limb, and retains the pressure by means of elasticity. Anything, however, that can produce pressure will be sufficient to effect the purposes of a tourniquet in an emergency, such as a piece of string, a pocket handkerchief, etc.

*Toxicology* is the science of medicine which treats of poisons.

*Trachea* is that portion of the wind-pipe which is situated

between the larynx and the bronchial tubes. It is liable to inflammatory attacks, but its greatest importance, medically, consists in the fact that in cases of threatened suffocation from diphtheria and other affections of this nature, it is this portion of the air passage which is opened, the operation being called tracheotomy.

*Training* is the term applied to a process of bringing the body up to the highest pitch of perfection for the performance of certain arduous duties or tests, such as running, rowing, riding, etc. Where muscular power is desired the special muscles which are intended to be brought into play will require systematic exercise for a prolonged period, so as to make them accustomed to the continued movements which the test necessitates. At the same time the diet must be composed of such articles as will provide special nourishment for the muscular tissue—viz., those articles which contain nitrogenous or flesh-forming substances, amongst which may be mentioned albumen, lean meat, oatmeal porridge, wheaten bread, milk, etc. The digestion must also be attended to and kept in a healthy condition, while the daily evacuation of the bowels must be ensured. A cold bath, together with hard friction over the body, will prove useful adjuncts; while plenty of exercise should be taken in the open air, and a fair amount of sleep indulged in.

*Trance.* See Catalepsy.

*Traps*, as applied to the system of drainage, are invaluable in house sanitation. It is, however, quite useless to provide a system of drainage with traps unless these are thoroughly ventilated by communicating freely with the outside atmosphere beyond the trap. If this is not carefully attended to soluble gases, which emanate from decomposing sewage, will be absorbed by the water and given off at the other side of the trap, and thus find an entrance into the dwelling-house. The whole system of trapping is so much an item of common sense that it is difficult to under-

stand why it did not come to a state of perfection long before this was accomplished.

*Travelling* is one of the most agreeable forms of recreation that can be indulged in. The mere fact that the individual is constantly passing through new scenes and various climates produces a most exhilarating effect upon him, and acts as one of the best tonics that can possibly be prescribed. While the mind and body are receiving rest they are at the same time being occupied in a way quite different from the regular routine of life, and this fact, by bracing up the nervous system, produces a most salutary effect upon all the organs of the body.

*Tremor* is a symptom of nervous debility arising from either exhaustion, excitement, or disease. It is especially noticeable in drunkards and in the course of fevers, and is invariably a symptom of a very serious nature, as it always indicates a decadence of the vital powers.

*Trephine* is a small circular saw employed by surgeons for the removal of disks of bone from the skull. By this means diseased portions of the brain may be reached and tumours removed. In recent years this instrument has been very much more largely employed than formerly, and with the best results.

*Trichiniasis* is a disease which has given rise to very considerable alarm, in consequence of its painful and disgusting nature. It is due to the invasion of the muscles of the human frame by a minute worm called the "trichina spiralis," and is generally developed by eating under-cooked pork, the pigs from which it has been procured having been infested with this disorder. The disease sets in within a few days after eating the infected meat, and commences with loss of appetite, sickness, prostration, fever, pains in the limbs, swelling of the face, copious perspiration, and other signs of depression. In the worst form of the disease these symptoms are accompanied by incessant vomiting and diarrhoea, resembling very much the symptoms of

typhoid fever, with which disease it at many times has been confounded. Although trichiniasis is such a loathsome disease it at times is not necessarily fatal, as the minute worms which find their way into the muscles of the individual may become surrounded by a capsule, and thus separated, as it were, from the muscle, where they remain embedded, causing little or no disturbance. It is needless to say that if such a disease is suspected a medical man should be consulted immediately. The great point, however, to attend to is the proper cooking of pork on every occasion, and the Governments of various countries should take special care that no diseased pork is permitted to enter within their jurisdiction ; and if it is detected in the swine of their own country these should be immediately slaughtered and cremated, not buried, otherwise the disease is still permitted to remain active. Pork, to be a healthy article of diet, should never be prepared from the flesh of pigs which have been permitted to roam at large in search of food, as they are notoriously very foul feeders and will devour flesh even though it is decomposing, and it is doubtless in this manner that the disease has become introduced. The Jews and Hindoos have shown great wisdom in their prohibiting pork, and in making it a religious crime to use it. They knew full well the dangers of eating the flesh of an animal which feeds upon such disgusting diet as pigs do. Even if thorough cooking of the infected pork is carried out it is still pernicious to swallow the meat contaminated by such a loathsome parasite. Many instances are on record where whole communities have been affected by eating the flesh of contaminated pork, both in Germany and America. The appearance of meat affected by this parasite is characterised by numerous white specks distributed through it, but the parasite itself can only be detected by means of the microscope. *See Pork.*

*Trochar* is an instrument used for draining away fluid

from the cavities of the chest, abdomen, scrotum, or from abscesses. The trochar is a steel instrument fitting into a silver tube, the steel portion carrying the tube or canula along with it into the cavity, and is then withdrawn, leaving the canula in position, through which the fluid finds exit.

*Tropical Diseases*—such as cholera, sunstroke, dysentery, fever, etc.—have been treated under their special heads. Great precaution should be exercised by individuals proceeding to inhabit a tropical climate in the selection of their water supply, and in ensuring its asepsis by boiling or filtering. Great care should also be exercised with reference to the partaking of stimulants, as thirst, which is naturally intensified by residing in a hot climate, renders one more liable to indulge in these, and even in small quantities they are dangerous. Special attention should also be given to the clothing, especially to the head-gear.  
*See Sunstroke.*

*Trunk* is the name given to that portion of the body between the neck and the thighs, embracing the thorax and abdomen. *See special articles.*

*Trunk-pack* is the hydropathic application which is employed frequently in the treatment of febrile conditions of the body, especially where the organs of the thorax or abdomen are involved. The method of application is to wring a towel out of tepid water as tightly as possible, and wrap it round the body, and afterwards cover it with several plies of flannel or blanket, permitting the patient to lie in this for a period varying from three-quarters of an hour to two hours. In this way free perspiration, accompanied by a reduction of the temperature, is induced. Another method of applying the trunk-pack is to fold a cloth and pour boiling water upon it, afterwards wringing this dry by placing it in a towel and twisting the ends till all the superfluous water is expelled from the wet cloth. This answers the purpose of a hot bath by covering the

body with it, and afterwards retaining the heat by means of dry flannel placed around it.

*Truss* is an instrument employed in the treatment of ruptures. See Rupture and Hernia.

*Tubercle* is due to the development of a germ named the tubercle bacillus within the affected portions of the body, the lungs, glands, and bones being the special tissues affected. It may invade any of these tissues without producing organic change; as a rule, however, this is not the case, and its effects are destruction of the tissues involved, with a tendency to suppuration. In every instance where tubercle invades a part of the economy the vitality of that portion is destroyed to a greater or less extent, and it only requires the system to be reduced below its ordinary standard to enable the disease to develop and establish itself forthwith. The treatment of tubercular disease consists essentially in endeavouring to keep the general health in as good a condition as possible, while the disease itself is counteracted by the administration of muriate of calcium, or this salt combined with hypophosphites. The muriate of calcium seems to have a particularly antagonistic effect upon the tubercle bacillus, and numberless instances are on record where the disease has been entirely eradicated by its administration.

*Tumour* is an adventitious growth taking place in any organ or tissue of the body. Tumours may occur in the brain, in the stomach, liver, womb, ovaries, testicles, muscles, fatty tissue, skin, nerves, etc. In very many instances—such as the brain, tongue, gums, throat, larynx, womb, ovaries, abdomen, muscles, and fat—they can be removed by a surgical operation, and, as a rule, these operations may be accomplished with comparative safety. Refer to Cancer, Cyst, Womb, Ovaries, etc.

*Turmeric* is the root of a plant which is cultivated in India and China. It possesses aromatic properties, but is principally employed as a condiment and colour-

ing agent, and is an important ingredient of curry powder.

*Turn of Life*, Change of Life, Climacteric, are terms which are employed to denote the cessation of menstruation in women. It is always a period of considerable anxiety, as the circumstances of the woman undergo an entire change. At this period latent disease is liable to develop if proper precautions are not taken against it.

*Turpentine* is the spirit derived from the resinous exudation proceeding from various species of the pine tree. It is a volatile spirit, and possesses many medicinal properties. When applied externally upon a hot fomentation it acts as a powerful counter-irritant, and is frequently employed in the treatment of inflammatory or spasmodic affections of the abdominal viscera. It is also used in this way as an application in rheumatic affections of the muscles, nerves, and joints, especially in the treatment of lumbago, sciatica, and pains in any of the joints. It enters largely into the composition of many popular liniments, such as Elliman's embrocation and the turpentine liniment of the British Pharmacopœia. Turpentine, I believe, is the real constituent of that popular liniment called St. Jacob's oil. Internally it is useful, in small doses, for the relief of flatulence, and it also acts upon the kidneys and increases the flow of urine. When it produces this effect it gives to the urine a peculiar odour very similar to that of sweet violets. In larger doses it acts as a purgative, and it is frequently employed in the treatment of worms. It is also beneficial internally as a remedy in certain cases of rheumatism, when it may be given in 15-drop doses three times a day in milk. When employed for flatulence, 10 to 15 drops may be given every three or four hours. It also acts as a hæmostatic, preventing by its action hæmorrhage, and in this way is especially useful in the treatment of bleeding from the nose, bleeding from the bowel, kidneys, or bladder. When a very large dose of turpentine is taken

internally it is liable to cause intense sickness, with a feeling in the head closely resembling that of alcoholic intoxication, after which it is apt to produce powerful purgative effects similar to those of castor oil. If the purgative effect of turpentine is not freely developed it is liable to cause a feeling of strangury similar to that produced by cantharides, which *see*. The best way to administer turpentine internally is by means of capsules, which are made to hold ten drops, and can be swallowed without any difficulty. The most important use to which turpentine has been applied is in the treatment of certain conditions of the lower bowel, where an accumulation of fæces, together with flatulent symptoms, occurs. In these circumstances it is employed in the form of an enema, which may be composed of the following ingredients:—One table-spoonful of turpentine, the yoke of one egg, two wine-glassfuls of castor oil, well switched together, to which should be added one pint of thin oatmeal gruel, this having been previously strained. This mixture is to be injected into the bowel by means of an enema syringe. The patient should be enjoined to retain this mixture for four or five hours if possible.

*Tympanitis* is that peculiar resonant condition of the bowel which is produced by distention of the stomach and intestines by gas. It is invariably the result of a weak digestion, whether this be due to simple dyspepsia, or to the debility arising from fever, or an acute inflammatory condition of the viscera within the abdomen. It must always be regarded as a serious symptom, especially if it is accompanied by acute sensitiveness to touch. When arising in the course of typhoid fever, or in any operation upon the abdominal organs, it requires the most assiduous attention. When dependent upon dyspepsia its consequences may be viewed with considerable composure; at the same time every effort should be made to relieve it, as it invariably produces considerable inconvenience both to the heart's

action, to the movements of the lung, and to the comfort of the individual at large. *See Dyspepsia.*

*Tympanum*, or Internal Ear, is that cavity of the auditory apparatus which lies within the drum of the ear.

*Typhoid*, although indicating a condition of the system which invariably prognosticates considerable danger, is a term especially applied to enteric fever, typhoid fever being a synonym. *See Enteric Fever.*

*Typhus* is an infectious fever, which is essentially the result of overcrowding and breathing a vitiated atmosphere. Although typhus is such an infectious disease in overcrowded dwellings it is almost innocuous to those who are in attendance when the disease occurs in a well-ventilated and airy house. Many curious experiences have been observed with reference to this fever in several instances. In Ireland especially, where the disease was at one time so prevalent, patients have been taken from their beds and put outside of the house under the impression that they were dead, when they have been known to recover simply from the fact that they were enabled to inhale a sufficiency of fresh unvitiated air. It therefore stands to reason that the grand point in the treatment of this disorder is to supply the patient with an abundance of fresh, unpolluted atmospheric air, and doubtless the death-rate from typhus would have very much diminished had this simple precaution been carried out in the treatment of the disease in the past.

*Ulcer* is a term which is applied to a destruction of the cutaneous tissue or mucous membrane. It literally means an eating away of the surface, and is invariably due to the fact that healing has not been encouraged by the prevention of the development of the germs of decomposition which have invaded the wound or injured surface. When a wound does not heal by first intention, or without suppuration, this is due to the invasion of certain organisms which have taken possession of the injured portion of the

surface, and by developing therein prey upon the tissues, weakening the surrounding integument and attacking it, thus extending the area of the disease. The treatment therefore consists in the application of antiseptics, which destroy the vitality of these organisms, thus assisting the weakened tissues to recover their health sufficiently to enable them to complete the repair of the part. A great deal can be done in aiding the healing of an ulcer by keeping the limb or part at rest and in the horizontal posture, while the debilitated portion may be stimulated by strapping the ulcer by means of ordinary adhesive plaster, at the same time dusting the raw surface with aristol, iodoform, or any other bland antiseptic. Ulcers very frequently occur upon the stomach, womb, and bowel, and in these circumstances the diet of the individual should be adapted to the weakened condition of the mucous membrane of the stomach; while antiseptics may be administered with a view to prevent the development of the organisms which are essential to the existence of the ulcer. If in the bowel, and within reach, the parts can be treated locally. This method is also recommended in the treatment of ulcerations of the womb. In every instance, however, it would be advisable to consult a competent medical man. Ulcers frequently arise from local irritation, such as that produced by the application of a bandage which has been put on too tightly, or by lying in one position in bed, when the tissues are destroyed by continual pressure, as in bedsores. They are also produced by the presence of varicose veins, and by an unhealthy condition of menstruation.

*Umbilicus*, or Navel, is the term applied to that portion of the body where the umbilical cord is originally attached to the skin of the abdomen. It is only interesting in childhood, and occasionally in adult life when hernia or rupture may take place at this point.

*Ureter* is the tube which conveys the urine from the kidney into the bladder. It sometimes is the seat of

intense pain in consequence of the passage of what is called a renal calculus, when the spasmodic pain produced is of a most excruciating and sickening character. The treatment under the circumstances is to apply hot fomentations well saturated with laudanum over the seat of pain and give morphia by subcutaneous injection.

*Urethra* is the canal which conveys the urine from the bladder. It is liable to be affected by various complaints, especially in males. In some instances it may be irritated by the passage of small stones or gravel, or urine of a highly acid character. The most frequent affection of this portion of the urinary tract, however, is caused by the contact of poisonous matter, such as gonorrhœa and other purulent discharges from the female passages. When this occurs it is liable to set up such an amount of inflammatory action which may be followed, when this has passed off, by stricture of the canal, and in many instances this has become so pronounced as to block the passage of urine altogether. The treatment of such an affection consists in the first instance of destroying the poisonous secretions of the part by means of the frequent application of antiseptics, and if stricture has manifested itself, to dilate the passage by bougies graduated from the small to the large size. In every instance where this canal is affected be certain that only a qualified and respectable medical practitioner be consulted ; never, under any circumstances, consult a quack.

*Urine*, or the Secretion of the Kidneys, conveys from the body certain products of decomposition. In some circumstances, however, it may contain blood, albumen, sugar, and an excessive quantity of urates, which is designated gravel. The secretion of urine is one of the most important in the human economy, as a healthy urine is usually an indication of a sound condition of the individual. When the urinary secretion produces irritation in the canal this is generally due to its condition being too highly acid, and will

usually be demonstrated by the fact that a brickdust-looking deposit takes place in the urine when it has cooled. This peculiar condition very frequently indicates the presence of rheumatism or gout within the system, and if the direct evidence of these affections has not manifested itself, yet the very fact of this red deposit being present should make the physician suspect that such a contingency may be near at hand. When the urine contains albumen, such a symptom is always looked upon with very great gravity by the physician, as it invariably indicates an unhealthy condition either of the heart or kidneys. When sugar is present the disease called diabetes is known to exist, and in such circumstances there is also to be dreaded very serious results, and the greatest care must be taken to diet the patient in such a way that his nourishment will be assured, while the sugary constituents of the food will be abstained from. In many instances the urine is a very powerful aid in the diagnosis of nervous disorders, as well as those of the bladder ; *e.g.*, if a person is passing very large quantities of urine of a pale appearance and of light specific gravity, the physician will generally infer from this that there is some cause of nervous irritation present, whereas, if the urine is of a high colour, it usually indicates fever or intense nervous prostration, while in many instances this may be due to the presence of bile or blood within the urinary secretion. A careful examination of the urine in any of these circumstances will enable the medical attendant to arrive at the exact cause of the abnormal condition. When the urine is passed at frequent intervals, and the last few drops are expelled with considerable pain, it may be concluded that the bladder itself is the seat of disease, and that considerable irritability of its membrane exists. In many instances when the urine is passed it will have the appearance as if water had been mixed with milk in small quantities. On boiling this fluid the milky appearance will still be retained, but on adding an acid in small

quantities this will disappear. It, as a rule, indicates the presence of phosphates in the urine, and in such circumstances the fluid is invariably alkaline in reaction. When the urine, on being passed, possesses a creamy look it will also be found to be alkaline in reaction, but on boiling and adding acid it will still retain its yellow and viscid appearance. In such circumstances the presence of pus is to be suspected. The normal condition of urine presents the following characteristics :—It should possess a pale brandy appearance in colour, having an acid reaction, and a specific gravity varying from 1015 degrees to 1022 degrees. The quantity passed will be greater in winter than it is in summer, in consequence of the fact that a larger amount of vapour is passed from the skin in summer than in winter, but the average should be about 30 to 40 ounces per day. In urine there is always suspended a certain amount of mucus, which is thrown off naturally by the mucous membrane of the bladder. This, when the fluid is allowed to stand in a glass vessel, presents the appearance of a very filmy-looking cloud suspended in the centre of the fluid. When urine possesses a heavy odour this indicates the fact that decomposition has been going on to a certain extent, and in these circumstances the urine will usually be alkaline in reaction. Now, whenever urine does not give an acid reaction it has to a certain extent departed from the healthy standard, and precautions should at once be taken to rectify this condition of things. When urine contains blood of a dark dull-brown appearance one may reasonably infer that the source of the haemorrhage is in the kidneys ; when, however, it appears bright red we may conclude that the bleeding is coming either from the coat of the bladder itself or from the prostate gland, which lies at the base of the bladder close to its orifice. A healthy condition of the urine is one of the best indications of health, whereas an unhealthy condition should invariably be looked upon with the greatest amount of apprehension.

*Uterus*, or the Womb, is an organ which should invariably be examined where nervous depression and irritability, accompanied by pain, bearing down, irritability of the bladder, and pain on defecation, exist. *See Womb.*

*Uvula* is that small tongue-like extension which is suspended from the upper portion of the soft palate, and is situated between the tonsils. It not unfrequently raises intense irritation at the top of the larynx when it is elongated, and in such circumstances it may be necessary to amputate a portion of it to give relief.

*Vaccination* is the introduction of the lymph obtained from cows or heifers suffering from vaccinia or cow-pox, which disease seems to be identical with that of small-pox in man. Other diseases are also said to be identical with it, such as distemper in dogs and grease on horses' feet. When vaccinia is introduced into the human frame it produces a certain amount of disturbance, but this is so trivial compared to that which results from small-pox, and as it gives immunity from this loathsome disease, it has rightly become enacted that every individual must undergo the operation of vaccination. The effects of vaccination are truly marvellous; the author has seen cases where the premonitory symptoms of small-pox were actually present, and he has vaccinated the individuals, and, in one instance in particular, he observed that the small-pox papules were actually making their appearance upon the skin at the time that the vaccination was coming to a head. The result was that the vaccination, as it were, beat back the small-pox and completely overcame it, so that small-pox never developed, but the vaccinia came to a head in the ordinary course. Doubtless, many diseases have been contracted by impure vaccine lymph having been employed, especially was this the case when it was invariably the rule to procure the supply of lymph from infants. This should never be resorted to, as the pure lymph can be obtained in any quantity from heifers which are kept for

the purpose of supplying it, and when it is derived from this source there need be no apprehension on the part of those vaccinated that any disease can thereby be introduced except that of vaccinia. The process of vaccination consists in simply excoriating the skin to a very limited extent—not sufficient to produce haemorrhage at all, but simply a rawing of the surface—afterwards placing a small quantity of lymph upon the denuded surface of the skin and permitting it to dry there, when the lymph will be absorbed and produce its constitutional effects. These will come to a height about the eighth day, and afterwards gradually pass off. In any case where vaccination has been properly performed, if the lapse of time has not been too great, small-pox will be completely prevented, whereas it will always have the effect of modifying the disease even if a longer interval than that which is necessary to produce immunity has elapsed. Re-vaccination, however, should be performed at certain intervals, say after a period of seven years, when complete immunity will be undoubtedly secured.

*Valves*, in the human economy, are placed upon the heart, veins, and bowel. They assist largely in the mechanism of the organs engaged in circulation.

*Vapour* is employed largely in therapeutics, either as the vapour bath or by inhalation of certain remedies, such as eucalyptus, menthol, chloroform, ether, etc.

*Variola*, or Small-pox. *See* Small-pox.

*Vaseline* is an inodorous, aseptic, and greasy product obtained from the decomposition of paraffin substances, and is most useful on the toilet-stand as well as in the laboratory. It imparts a soft and elastic condition to the skin when this has been unduly exposed to the weather or climate. It also enters largely into the composition of ointments of all kinds, as well as pomades, so that every portion of the community may be said to benefit, more or less, by the introduction of this valuable substance. *See* Petroleum.

*Veal*, like all other immature meats, is not nearly so

digestible as that of the adult animal, with the exception perhaps of chicken. The consequence is that, when immature animals are killed and employed as articles of diet, they frequently give rise to serious symptoms of indigestion, and not unfrequently colic, with all its painful concomitants.

*Vegetables* should enter largely into the dietary of every individual, as they contain certain constituents which are essential to the healthy condition of the blood.

*Veins.* These vessels convey the blood from the arteries back to the heart, and communicate with the capillary arteries by means of the capillary veins. The arterial blood is of a bright red colour, whereas that of the veins is purple in consequence of its being contaminated by carbonic acid, which becomes liberated on its reaching the pulmonary circulation. It is thereby transformed again into arterial blood. The walls of the veins are quite different in their construction to those of the arteries, the former being tubular and elastic, while the latter are more of a membranous character, and flaccid in their nature. The veins, with the exception of those conveying the blood from the various viscera of the heart, are supplied with valves opening only forwards, they therefore prevent the blood flowing back within the vessel. In the operation of phlebotomy, when the veins are incised with a view of extracting blood, one of the superficial veins is generally selected, as the bleeding from this can readily be controlled by applying pressure. The veins are liable to distension, in consequence of pressure being exerted upon the larger trunks nearer the heart than those which are affected, the result being varicose veins, which, as a rule, appear upon the leg, but may also appear upon the scrotum and vulva. The veins of the leg are especially liable to inflammation, called phlebitis, this being due to the coats of the vessels becoming inflamed. This induces coagulation within the vessels. White-leg in lying-in women is directly due to this cause. When a vein is wounded and hæmorrhage is

going on, this may readily be arrested by simple pressure applied to the part; whereas, if an artery is wounded, it will be with considerable difficulty that the haemorrhage is staunched. In any instance where either disease or injury of a vein has taken place, it is essential that a medical attendant be called in with as little delay as possible.

*Ventricle* is the chamber of the heart which distributes the blood to the circulation, the left ventricle supplying the circulation to the body, while the right ventricle supplies the lungs.

*Verdigris* is the acetate of copper, and is prepared by the action of vinegar upon this metal. Poisoning by this substance occasionally occurs, and should be treated in the same manner as poisoning by sulphate of copper.

*Vertebra* is the term applied to the various bones composing the spinal column.

*Vertigo*, or Giddiness, is a symptom which should always be viewed with considerable alarm, as it very frequently indicates some mischief either within the internal ear or brain itself.

*Vesication*, or Blistering, is produced by the application of some irritant to the surface of the skin, whereby the cuticle is destroyed and a blister produced.

*Vesicle*, or Little Blister, is an elevation of the cuticle by serum being effused beneath it. Vesicles appear in chicken-pox, small-pox, shingles, swine-pox, cow-pox, erysipelas, erythema configurata, etc.

*Vicarious* is the term applied to the action of one portion of the body substituting that of another, as for example when menstruation does not come on normally, but is represented by a bleeding from the stomach, lungs, nose, bladder, etc.; this is termed vicarious menstruation.

*Villi* are minute projections from a mucous membrane, but the term physiologically is applied to the small prolongations which are observed in the small intestine, and give to it a velvety appearance. Each villus is invested

with an epithelial covering, and is possessed of a vascular supply. These villi of the intestines are possessed of minute lymphatic tubes or vessels, which terminate at the tip and have a closed end. These form the lacteal vessels, and comprise the lymphatic system of the bowels. Their duty is to absorb the fatty portion of the chyle formed in the intestines, and thereafter conduct it through the glandular apparatus and the mesentery to the common chyle or thoracic duct, which empties itself into the large veins of the thorax. The term, however, is also applied to certain pathological prolongations of the mucous membrane, such as that of the bladder, when it is called a villous growth, and is then liable to give rise to excessive haemorrhage in consequence of the rupture of the veins contained within its friable substance.

*Vinegar*, or Acetic Acid, is procured either by acetous fermentation of the juice of the grape or other fruits, or by the destructive distillation of wood. As is well known, vinegar is employed largely in the preservation of pickles and as a condiment. Acetic acid, however, which is procured from the distillation of wood, is also employed as a counter-irritant. This substance possesses a peculiarly destructive effect upon the epithelial tissue, and its application to the skin is in a short time followed by a raw surface being produced. In this way it exercises considerable counter-irritant effects. When diluted it produces a stimulating effect, and is employed in numerous lotions and applications in consequence of this property.

*Vision* consists of the impingement upon the retina of rays travelling from various objects. The organ of vision, or the eye of man, is both complex and yet wonderful in its simplicity. See article on the Eye. As will be generally conceded, the sense of sight is the most valuable which we possess, therefore careful attention to it should be observed with the greatest solicitude. Many aberrations of vision exist which are consequent upon some slight disarrange-

ment of one or more of the various structures which enter into the composition of the eye, whereby the rays of light are prevented from coming to a correct focus upon the retina, or where dimness may exist from a diseased condition of the cornea, aqueous humour, lens, vitreous humour, or of the retina itself. Short-sightedness is due to a too convex condition of the lens, but can be readily rectified by wearing suitable glasses, the cause of this defect being that the rays of light come to a focus in front of the retina, whereas in long-sightedness the lens is flattened to a certain extent, and in consequence of this condition existing the rays come to a focus behind the retina ; concave glasses therefore are necessary in the former instance, and convex in the latter. Any competent optician will be able to supply these to the satisfaction of the individual. Another defect of vision, consequent upon a peculiar anomaly of reflection, is termed astigmatism. In this condition the horizontal and vertical planes of the cornea do not describe an equable curve ; hence, while the upright lines may be distinctly seen, the horizontal ones are liable to become misty or invisible, or the opposite conditions may obtain. Destruction of vision may result from injury to the eye-ball, or to the formation of opacity in the cornea in consequence of ulceration or inflammatory action of a severe type. When blindness is due to opacity of the lens, then cataract is said to exist ; this, however, can be cured by operation. If the blindness should depend upon disease of the retina, then the term amaurosis is applied, and this of course is an incurable affection.

*Vis Medicatrix Naturæ*, or the Healing Power of Nature, is that wonderful faculty which the frame possesses of throwing off disease and restoring injured parts. Medicine and surgery will in many instances assist this ; but it is a melancholy fact notwithstanding, that, in many instances, the interference of incapable medical practitioners has the very opposite effect, and actually frustrates the powers

which nature otherwise would exert with greater facility and good effect had she been left to herself. This process of nature is assisted materially by observance of hygienic laws, such as providing for free ventilation of sewers, well-ventilated houses, an abundance of sunlight, cleanliness, change of air and scene, a carefully regulated diet, strict attention to the bowels, etc., etc.

*Vitriol.* See Sulphuric Acid, Sulphate of Iron, and Sulphate of Copper.

*Voice*, or the sound which is produced in the larynx by vibrations of the vocal chords, can be produced by all mammalian animals. All sounds, such as singing, crying, talking, are produced by the action of these chords within the larynx, which, by their contraction and relaxation, modulate the sounds produced. Almost every sound that is known in nature, except thunder, the howling of the wind, and other sounds of enormous volume, can be imitated by the human larynx. The voice becomes greatly altered in character and tone as puberty develops, and in certain diseases, such as Asiatic cholera, great prostration, and all affections of the larynx itself, it becomes altered to an extraordinary degree. Other diseases which result in interference with the mechanism of the larynx also affect the intonation and modulation of the voice.

*Vomiting* is a convulsive effort of the stomach by which it discharges through the gullet a portion or all of its contents. It may be produced by direct irritation from substances which have been ingested, such as unsuitable food ; by the effects of mechanical irritants, such as some of the poisons ; or by nauseating drugs, of which ipecac may be taken as a fair example. Vomiting, however, frequently is the result of disease, and it may also be caused by blood either being swallowed or being effused from the mucous coat of the stomach. Certain diseases, such as dyspepsia (especially when this is due to the development of sarcinae within the organ), irritation of the mucous membrane, ulceration,

cancer, etc., all induce vomiting, this being due to the irritable condition of the organ which obtains. Vomiting, as is well known, may also be caused by reflex irritation, as in certain diseases of the ovaries, in pregnancy, and sea-sickness. Obstinate constipation may also induce it, and when this has proceeded to an extraordinary extent, stercoraceous vomiting may result, this distressing condition being due to the intestines reversing their action and carrying fæcal matter into the stomach. Various remedies are advocated, amongst which may be recommended a simple diet, if need be the food to be partly digested by being peptonised before it is partaken of; the administration of pepsine and bismuth, which are also useful agents when taken immediately after food; effervescent drinks, powdered ice, drop doses of ipecacuanha wine, morphia in very small doses, carbolic acid, phenacetin, etc., have all been recommended, and doubtless are useful agents in overcoming these distressing symptoms. The application of mustard over the pit of the stomach will often prove of great benefit, and in sea-sickness a bandage tightly applied round the abdomen and lower portion of the chest will frequently be found of considerable service. In every instance where vomiting is persistent it is highly desirable that the lower bowel be kept in a state of daily action.

*Wakefulness*, or Sleeplessness, frequently arises from the neglect of taking food shortly before going to bed. It is quite unreasonable to suppose that the stomach can be in a healthy condition if it is permitted to fast for a long period, as often elapses between dinner and breakfast; and frequently, when a person wakes in the middle of the night and is unable to sleep, the partaking of a little light nourishment, such as the white of an egg swirled up in a tea-cupful of milk, or a piece of bread and butter with milk, will induce sleep which otherwise would be courted in vain. There is no doubt that sleeplessness frequently is a concomitant of advancing years, and this is partly due to the

fact that sleep is not so essential to an elderly as it is to a young person, and in old age the body requires less sleep ; consequently elderly people are more wakeful than young people.

*Walking Exercise* should be enjoyed by everyone, especially those whose habits are otherwise sedentary. Circulation and digestion are promoted by a daily amount of exercise in the open air, and therefore diseases of a congestive type are warded off. This is specially the case as far as the kidneys and liver are concerned ; and everyone who is in the least predisposed to a sluggish action of either of these organs should make it a point to take a certain amount of walking or riding exercise every day, but walking should never be indulged in immediately after a meal, the effects being much more beneficial when exercise is taken shortly before or at a short interval afterwards, when digestion is fairly under way.

*Wall-Paper* should never be of a green colour, in consequence of the fact that, in the majority of cases, it contains arsenic as a pigment. Now, it is a well-known fact that arsenic is very volatile in its nature, and is liable to be given off by the paper in a kind of vapour, which, being inhaled by the individuals occupying the room, produces most pernicious effects. If green paper is at any time selected it will be highly desirable to have this, first of all, sized with ordinary glue in solution, and afterwards coated with varnish, which will retain the pigment in the paper. In every instance where walls are covered with paper the greatest care should always be taken to scrape off the previous covering, as it goes without saying, if paper is placed upon paper, and this for several times, an immense amount of filth will be retained, and be liable at any moment to give rise to disease, or, at all events, to discomfort on the part of those occupying the room. Many instances are on record where disease has been traced to the neglect of this point, and also to the employing of

papers containing arsenic in the composition of their colouring matter. Nurseries especially should invariably have the paper varnished, so as to enable it to be washed at regular intervals, and thus remove any germs of disease which may have located themselves upon it.

*Walnuts*, although very nutritious, are always more or less indigestible, this being largely due to the covering of the nut, which the stomach is perfectly incapable of dissolving. Green walnuts are a favourite pickle, and in this condition they seem to be as wholesome as any other of this class of condiment.

*Warm Bath* should always be taken with a certain amount of discrimination, as it invariably has the effect of opening the pores of the skin, and rendering the system susceptible to cold. When a warm bath is taken for cleansing purposes alone, it should invariably be followed by a cold sponge, so as to tone up the skin before drying. This form of bath is very popular as a remedy for colds, and in these circumstances it is followed by beneficial results. When, however, it is taken in this connection it would be well that the individual immediately goes to bed, and in this way keep up the action of the skin, which has been already induced by the bath.

*Warts* are a hypertrophied condition of the epithelial layer of the skin, and are of a horny structure. In every instance they are disfiguring, especially when they appear upon the face. They can, however, generally be removed by the application of strong acetic acid or chromic acid, both of which substances have a destructive effect upon epithelial structures. When the wart is pedunculated, as frequently happens, they can either be snipped off with a pair of scissors or tied with a piece of fine silk, when they will soon drop off. Warts on the hands of children may be treated very efficaciously by administering five to ten grains of the sulphate of magnesia or Epsom salts in a little water three times a day. When warts are irritated,

especially those which occur in elderly persons, they are apt to degenerate into a malignant growth called epithelial cancer. When, therefore, it is desirable that a wart in an elderly person be removed, care should always be taken to do this in such a way as to secure the removal of a certain amount of healthy tissue in its immediate neighbourhood.

*Wash Leather*, or Chamois Leather, should never be employed as an article of clothing without it is very freely perforated so as to permit of the healthy action of the skin, as, by its impervious nature, it retains the secretions of the skin, and retards the normal action of this important membrane.

*Wasp Stings* may be treated by the free application of ammonia, bi-carbonate of soda, or potash, but the first point to attend to is to endeavour to extract the sting.

*Wasting*, when applied to disease, is generally synonymous with atrophy and tabes, which see. It is invariably the result of some organic mischief, either in the stomach, liver, intestines, womb, or other organs, and is most closely associated with tuberculosis and cancer.

*Water*, so abundantly distributed over the face of the globe, is most essential to the maintenance of health both of plants and animals. It is much more important even than food, as one could live much longer on water alone than on food alone. It enters largely into the composition of every living substance, the human body, for instance, containing as much as 80 per cent. of water. The amount of water required by the human frame depends entirely upon the character of the food which is partaken of—*e.g.*, if vegetables and fruit enter largely into the dietary, then water will be less necessary; whereas, if the food is of a drier nature, water will require to be taken in more considerable quantities. Although water is such an important fluid, and, when pure, is so beneficial, yet by it many diseases are communicated to the human body—as, for example, cholera, typhoid fever, dysentery, and doubtless

many others. Water, when pure, should contain no living organism ; but, when it holds in solution organic matter, it is thereby enabled to act as a nidus to various microscopic bodies, some of which are innocent, while others are most pernicious in their effects when taken into the system. The composition of this fluid is two atoms of hydrogen combined with one of oxygen, and remains fluid until 32° F. is reached. At a temperature of 212° F. it becomes vapour, and passes off in the form of steam, in which condition it is frequently employed as an inhalation.

*Water-Closets* should, in every instance, be thoroughly well trapped and ventilated, so as to prevent the entrance of gaseous products of decomposition into the dwelling. If efficient trapping and ventilation of these traps are not provided for, the effect will be that the gas will be dissolved in the water contained in the trap, and in process of time so act upon the metal composing the trap as to perforate it, and thus permit the gas to escape. On the other hand, if ventilation of these traps is not thoroughly provided for, the gases, which are the result of decomposition of sewage matter, will become dissolved in the water and be given off at the basin, and thus find their way into the house. To provide against any such contingency it is highly desirable that water-closets be placed next the wall of the house, and communicate with the main sewer by means of a pipe led against the outside wall of the house, which pipe is incomplete at its upper portion, representing as it were a tube, with a slit of  $\frac{1}{4}$  to  $\frac{1}{2}$  an inch at its highest point ; in this way any gases that are generated in the sewer when rising in the soil-pipe will naturally escape by means of this hiatus. The ventilation of sewage and trapping of pipes does not apply only to water-closets, but should also extend to every aperture by which fluid of any description escapes to the main sewage system, such as sinks, baths, wash-hand basins, etc. It should strictly be observed that soil-pipes under no consideration pass within the walls of

the dwelling, but in every instance run down the outside of the wall.

*Water Dressing* is applied to wounds, ulcers, abscesses, etc. The water which is employed for this purpose should always be rendered antiseptic by the addition of some substance, such as carbolic acid, Condy's fluid, solution of bi-chloride of mercury, etc. The proper method to apply a water dressing is to saturate a piece of lint cut a little larger than the size of the open surface, apply it to the surface, and afterwards cover this with a piece of impervious dressing, such as oil-silk, gutta-percha tissue, etc., after which these should be kept in position by means of a properly-fitting bandage.

*Water in the Chest*, or Hydrothorax, is the effusion of the fluid portion of the blood into the pleural cavity. It is, in the majority of cases, due to pleurisy, whereby the inflammation creates a congestion of the veins, which, in consequence of a hydrostatic effect, causes an oozing of the serum of the blood to take place through the thin coats of these vessels, and this may proceed to such an extent as to completely prevent expansion of the lungs to fulfil the necessities of respiration. If this fluid is permitted to remain for any period, if death does not supervene, in consequence of the mechanical obstruction which it produces, the liquid is liable to undergo a purulent degeneration, so that what was at one time a bland and non-irritating fluid, becomes transformed into pus. When this disease exists it can readily be detected by the fact that it causes a dull note on percussion, at the same time producing a slight bulging between the ribs, and, according to the amount of fluid that is present, more or less fever will result, while the respiration will be accelerated in proportion to the obstruction which it causes. No time should ever be lost in treating such a case in the most energetic manner; blistering over the surface may produce absorption of the fluid, but by far the best method of treatment is that of

paracentesis, or drawing away the fluid by tapping. This operation can be accomplished with very little risk if proper antiseptic precautions are taken.

*Water in the Abdomen*, or Dropsy of the Belly, is also composed of the liquor sanguinis or serum. It is due to the obstruction to the flow of blood within the veins, in consequence of inflammation of the peritoneum, liver disease, Bright's disease of the kidneys, or heart disease. It is not nearly so amenable to treatment, at least in so far as to insure permanent benefit, as dropsy of the thorax or chest. Great relief, however, can be obtained by tapping ; but, as a rule, the fluid will very soon tend to collect again, and the operation may have to be repeated time after time, until gradually the patient sinks from sheer exhaustion. A great deal of benefit may be often obtained in dropsy, whether the water be in the chest, abdomen, or extremities, by administering medicines which act upon the circulation, and also those which produce watery evacuations from the bowels and a freer excretion of urine. Amongst the former may be mentioned digitalis and strophanthus, while amongst the latter are compound powder of jalap and other drastic purgatives.

*Water in the Head*, or Hydrocephalus, is almost invariably a fatal disease, as its origin is usually of a tubercular nature. It is a sequela of tubercular meningitis. *See* Tuberculosis

*Waters (Mineral)*. These, in consequence of their containing numerous salts and gases in solution, have been from time immemorial employed in the treatment of certain diseases. They are generally divided into alkaline, sulphurous, acidulous, chalybeate, and saline, or a combination of two or more of these substances. There are also hot mineral springs, which convey to the waters certain medicinal properties, not obtained by combining substances, and afterwards heating them in the ordinary way. The heat contained in these waters is termed ther-

mal heat, and is much longer in disappearing than the heat which is produced in water by ordinary boiling. The principal mineral springs in Great Britain are those of Bath, Tunbridge Wells, Woodhall, Harrogate, Buxton, Gilsland, etc., while the most important in Scotland is that of Strathpeffer.

*Water-Stroke* is a rare form of effusion within the cranium, and is generally the result of some acute inflammatory action going on within its membranes. The effusion produced resembles very much in its symptoms those produced by apoplexy.

*Wax* is the secretion of the bee, and is employed in medicine for giving consistence to ointments, plasters, suppositories, etc.

*Weaning.* The weaning of infants should, as a rule, take place when the child is about nine months old. Many circumstances, however, will influence the physician or nurse in recommending the mother to stop nursing, such as her own delicate health or the fact that the milk does not agree with her offspring. In such circumstances, if the parents can afford it, a wet nurse should be obtained. When weaning is decided upon the mother should apply a belladonna plaster over each breast and keep a tight bandage round the chest, when the bowels should be kept freely open by means of Epsom salts or some other saline. Iodide of potassium taken internally in five-grain doses, repeated three times a day, has a powerful effect in diminishing the secretion of milk, and if there be any difficulty in this respect it should be administered in conjunction with the other treatment that has been mentioned.

*Weather* has a most important influence upon many diseases, such as rheumatism, neuralgia, dyspepsia, and apoplexy, so that in any of these conditions it is very desirable that the patient should be moved to a climate where changes of weather are not very pronounced.

*Weeping Eye* is due to a choking of the lachrymal duct

or ducts which convey the tears from the inner canthus of the eye into the nostril. This is generally consequent upon cold or some chronic thickening of the mucous membrane of the duct. As a rule the obstruction can be removed by the passing of small probes from the eye-lid into the nostril. In some instances, however, it may be necessary to lay the duct open, and thus permit the tears to find their natural exit.

*Wen* is the popular term applied to a small tumour which is usually situated upon the scalp. These little tumours are generally enclosed in a membranous sac, and are consequently termed cysts. They can be removed with very little discomfort or danger to the patient.

*White Leg* is due to an inflamed condition of the veins, in consequence of which the blood becomes coagulated within them and thus prevents the free return of blood towards the heart from the extremities. Effusion therefore takes place into the tissues, causing the leg to swell and the skin to become tense, glossy, and bright in appearance. It is generally due to the absorption of some foetid matter from the womb after confinement. The treatment consists in absolute rest in the horizontal position, hot fomentations, the administration of iodide of potassium in five-grain doses three times a day, and careful attention to the bowels, along with a simple and nutritious diet.

*Whites*, or Leucorrhœa. In a state of health throughout the whole of the genital canal, extending from the ovaries to the external genitals, there is poured out an incessant mucous secretion which lubricates the opposing surfaces of the mucous membranes. This has the effect of keeping the parts moist and free from chafing by friction. If this discharge be excessive from any cause, such as catarrh or congestion, it is liable to become acrid, and by its irritating properties keeps up an irritation which tends to propagate itself by exciting the secreting power of the membrane. The secretion thus goes on increasing, not only in quantity,

but acridity also, till it assumes somewhat formidable dimensions, and may lead to considerable discomfort. It then passes under the name of leucorrhœa, or whites. The discharge may be confined to the mucous membrane of the vagina, or it may proceed from the neck of the womb or from the whole uterine canal. The normal secretion of those parts is clear and viscid, whereas when leucorrhœa is present the discharge is opaque, and if it is deposited on the linen, it, on drying, stiffens the fabric in the same way that starch would affect it. The discharge sometimes is so copious as to necessitate the wearing of a napkin for the sake of comfort. Under such circumstances, I need hardly remark, of necessity the excessive discharge is not only a source of discomfort, but of weakness also. At the same time it indicates an amount of irritation in the parts which may prove of serious moment. If the discharge does not go beyond being of a milky appearance it need give no great amount of apprehension, as it will readily be removed by systematic douching the vagina with a warm solution of alum or decoction of oak bark night and morning, while simultaneously the tone of the general system is restored by a course of tonic treatment. In the circumstances the following mixture will prove serviceable:—Tincture of the muriate of iron, 6 drachms; tincture of nux vomica, 3 drachms; infusion of quassia to make 8 ounces. Mix. Take a tablespoonful in half a tea-cupful of water three times a day, about an hour after food. An acid tube to be employed to protect the teeth. It must, however, be borne in mind that tonic or any other treatment will be of little avail if the bowels are not regularly attended to. It is therefore imperative that a complete evacuation be procured at least once every day. If the discharge, on the other hand, has passed beyond the milky character that it possesses in simple leucorrhœa, and has taken on a creamy or yellow appearance, the probability is that it is not the vagina alone that is involved, but the canal of the womb, or

even the fallopian tubes (which lead from the ovaries to the womb) also. Under such circumstances the treatment will not be quite so simple, and will require the aid of the physician in the majority of instances. Yet a great deal can be accomplished by the patient herself, even when the lining membrane of the womb is affected, by attention to cleanliness and taking measures to avoid all unnecessary fatigue; while at the same time the general tone of the system is restored by change of air to a bracing climate, or a residence at Kreuznach, in Prussia, or Schwalbach, in Nassau. A course of the mineral waters at either of these places will often prove very beneficial. It is most desirable to remove any appearance of whites in the initial stage of their existence, as there can be no doubt that the irritation of the vaginal canal (of which they are the indication) is liable to extend, by continuity of tissue upwards, first to the neck of the womb, thence to the lining membrane of the uterine canal itself, and afterwards to the tubes connecting the ovaries and womb. Furthermore, it is highly probable—though, so far as I am aware, it has not been actually demonstrated—that the serious diseases which so frequently affect the ovaries, and which necessitate the performance of most formidable operations for their removal, really have their origin in some trifling disorder of the external passages, and spread thence to the internal organs through the channels I have indicated. But whether this risk actually exists or not—and it certainly cannot be proved that it is absent—the effect on the nervous and physical health of one suffering from leucorrhœa is of sufficient moment to stimulate every effort to get quit of the disease as expeditiously as possible. I have hinted the nervous system is affected by this local disorder, and frequently this apparatus is so seriously disturbed as to cause no little anxiety to the patient and her friends. In connection with leucorrhœa there is repeatedly observed great depression of spirits, irritability of temper, and

hysteria. When these exist great benefit will be derived from the following prescription, if it be taken simultaneously with the employment of the local treatment before referred to :—Valerianate of zinc, 30 grains ; extract of conium, 24 grains. Mix and divide into 12 pills. Take one forenoon and afternoon. Mention must also be made of the distressing local symptoms which so frequently are due to the directly irritating properties of the discharge acting upon the surface surrounding the external genitals. I refer to the inveterate itching that sometimes co-exists with leucorrhœa and to the excoriation of the skin, resulting either from scratching the parts or from the acrid discharge coming in contact with it. The itching is most distressing, and is the cause of no small anxiety to many who from delicacy refrain from speaking of it even to their medical attendant. When this pruritus, as it is called, is present, and the skin is unbroken, the following ointment applied night and morning will prove very serviceable :—Nitrate of mercury ointment, 1 drachm ; lanoline,  $3\frac{1}{2}$  drachms ; prepared lard,  $3\frac{1}{2}$  drachms. Mix. After washing and drying the parts apply a little to the irritable parts. If the skin is broken and difficult to heal, the following is to be preferred :—Oleate of mercury ointment,  $\frac{1}{2}$  ounce ; oleate of zinc ointment,  $\frac{1}{2}$  ounce (be sure that the oleates are neutral) ; muriate of morphia, 6 grains ; di-sulphate of quinine, 1 drachm. Mix. Apply a little night and morning after having first washed and dried the parts. In conclusion I would say that, although I have discussed leucorrhœa in so far as it may be looked upon as a disease, yet, from the fact that it is always associated with certain morbid conditions, it is more entitled to rank as a symptom than as an actual disease. See "Woman in Health and Sickness."

*White Swelling* is the term applied to that disease of the knee-joint where degeneration of the cartilages and synovial membrane of the joint has taken place in consequence of prolonged inflammatory action. It is in many instances

associated with a tubercular condition of the body. The treatment consists in keeping the limb at perfect rest by means of splints, and applying a dressing of mercurial ointment to the part, while the condition of the general health receives particular attention, the patient being well nourished and kept in a healthy atmosphere.

*Whitewashing* by means of lime mixed with water should frequently be applied to walls which are in proximity to the emanation of gases derived either from sewers or decomposing matter. Lime, as is well known, is a powerful disinfectant, and, besides, the effect of whitewashing is pleasant to the eye, and indicates cleanliness on the part of those who employ it.

*Whitlow* is an abscess which forms on the thumb or finger, and is always dependent upon a very acute inflammation of one or other of the tissues of these parts. The bone, tendon, or fibrous tissue, may be the seat of the disease. In consequence of the dense nature of the covering of the thumb and fingers, and the resistance which the nail gives to the evacuation of pus, which invariably forms in this disease, the pain of whitlow is of the most excruciating character. The disease may spread, by continuity of tissue, up the whole finger or thumb and into the palm, when it becomes very serious indeed. The proper treatment to adopt when this disease is present is to lay the part open down to the bone, so as to permit free evacuation of the pus, and allay the tension which has naturally resulted from the disease. In some instances it may be necessary to scrape the bone, or even remove it, if the disease has involved it to such an extent as to threaten its destruction. The sooner the lancet is used the better will it be for the patient, as thereby the inflammation will be prevented from spreading and involving the neighbouring structures, and healing will progress much more rapidly than if nature were allowed to take its own course, and the pus be permitted to burrow its way to the surface. When

the parts have been laid open in this way poultices should be applied for some little time to loosen any slough which may have formed, after which a dressing, composed of one drachm of aristol to one ounce of benzoate of zinc ointment, may be applied night and morning, after the parts have been thoroughly well bathed in warm water. During the treatment the hand should be placed in a sling, and all movements of the part prevented by the application of a splint, if necessary, while the general condition should be improved by nutritious diet, supplemented with port wine, quinine, and iron, if necessary. An abundance of fruit, especially oranges, seems to exert a beneficial effect upon this disease.

*Willow Bark* is important in medicine, as from it is derived that most important antidote for rheumatism, salicine.

*Wind*, or *Flatulence*, are terms applied to the accumulation of gas within the stomach and intestinal canal. It is invariably due to dyspepsia, and in many instances may give rise to considerable stress, interfering as it does with respiration and the heart's action. When the stomach is distended, this will cause shortness of breath, and wind in the bowels which may produce severe colicky pains. *See Dyspepsia.*

*Wind-pipe*, or *Trachea*, is, properly speaking, that portion of the air-passage which extends from the larynx to the bifurcation of the bronchea. It is liable to inflammatory affections like other portions of the respiratory organs, and this should be treated by inhalation of steam, impregnated with some anodyne and antiseptic substances—such as menthol, carbolic acid, eucalyptus, pumuline, etc., while hot fomentations or hot poultices should be applied externally.

*Wine*, or the *Fermented Juice of the Grape*, is more an article of luxury than medicine. Various countries produce different varieties of grapes, which in their turn give rise to the numerous kinds of wine that are in the market. The

most nutritious wines, however, are obtained from France and Portugal, these consisting of Burgundy and Port, while the latter wines are also produced very freely in the Rhine Valley. Cape Colony and California, as well as Australia, have recently come to the front as wine-producing countries; and excellent samples of ports, hocks, and champagnes are now being imported from these districts. Brandy, if pure, should be distilled from the fermented juice of the grape also; but, unfortunately, there is now very little pure brandy in the market, in consequence of the greater consumption of wines which has taken place during the past few years. In buying wines be always careful to go to a good wine merchant, and trust to him to give you value for your money, rather than take the opinion of ignorant persons.

*Wisdom Teeth* are the last and most useless of the molars to make their appearance. Their roots are very short, and they are very liable to decay, and, in almost every instance, give more trouble than they are worth.

*Witch Hazel.* See *Hamamelis*.

*Womb.* The normal position of this organ is slightly oblique in relation to the erect posture of the body, the obliquity being forwards. It is a muscular body, with the muscular fibres arranged transversely in a circular manner, while another layer is arranged longitudinally. Besides these there are nerves, blood-vessels, and a lining membrane. It will be observed that the muscular fibres are so arranged as to ensure an erect position of the organ, these having somewhat of a spiral structure. It must always be borne in mind that the womb is a mobile body within certain limits—*e.g.*, it is pressed downwards by a full meal, forwards by a loaded condition of the bowels, and backwards by a distended bladder. Such movements are, however, only temporary, and removal of the cause permits of its return to the normal position. The shape of the womb, in the unimpregnated state, resembles very much

that of a flattened pear, having its apex downwards and its base situated upwards. At the base the fallopian tubes have their apertures at each side, at what is technically termed the right and left cornu of the womb, while the organ itself is divided into fundus, body, and neck. The fundus and body are covered with peritoneum, and are situated within the pelvic cavity, while the cervix or neck projects into the vagina, and is termed in consequence the vaginal portion. In the unimpregnated state the canal of the womb is of no greater calibre than that of a goose-quill. As is well known, the womb is liable to many diseases—such as inflammation, displacements, tumours, cancer, etc. These conditions, however, are so difficult of treatment that it is essential the patient consult a specialist on the subject. If a woman be suffering from depression of spirits, irritability of temper, accompanied by great prostration of strength and a copious flow of urine, no time should be lost in consulting a medical man on the subject, as almost invariably these symptoms are due to some interference with the functions of the womb. For further information on this subject, see the author's treatise on "Woman in Health and Sickness."

*Wood Sorrel.* See Oxalic Acid.

*Wool*, and Woollen Clothing, should always be worn next the skin. Its absorbent powers as well as its texture, which provide free ventilation, are important in maintaining the health of the skin. Especially should this kind of clothing be worn by delicate persons, notwithstanding the fact that people are apt to complain of the irritation of the skin which wearing woollen underclothing is liable to give rise to.

*Worms* are very prevalent amongst children, especially in country districts. They are a source of more annoyance than actual danger, though not infrequently they give rise to serious complications, such as convulsions. The symptoms produced are picking at the nose, grinding of

the teeth, starting in sleep, feverish attacks especially at night, fretfulness, restlessness, languor, variable appetite, changing colour, pinched and thin look about the nose and mouth, dark rims around the eyes, ashy complexion, and itching around the anus. In girls I have frequently seen inflammation of the vagina set up by thread-worms finding their way from the rectum into this passage. We must not forget, however, that many of these symptoms may be due to constipation, even when no worms are present. As a natural consequence delicate and weakly children, especially those of a scrofulous habit, are more liable to worms than strong children. These parasites are always introduced into the body either by means of food or water; hence their more frequent occurrence in country districts where surface water is used for drinking purposes. The varieties of worms are :—1. The long thread-worm, whose habitat is the large intestine; it is long and slender, and may be two inches in length. 2. Ascaris, or thread-worm, which is very common. It resides in the rectum, and sometimes comes away in large bunches. 3. Round-worm, or lumbricus, which occupies the small intestines and frequently is vomited up; and I have known them being expelled through the nostrils after an attack of vomiting. In these circumstances they have crawled into the stomach. They resemble in appearance the common earth-worm, and measure from three to nine inches in length. 4. Tape-worm, which also inhabits the small intestines. Recently a very simple and efficacious method of treating tape-worm has been advocated, viz., the administration of a table-spoonful of a saturated solution of chloroform in water every hour for eight or ten consecutive hours, and this to be followed by a smart dose of castor oil, when the worm is said to be expelled in its entirety. Another quite as effectual, but certainly much less pleasant, mode of treating the disease is to administer 10 grains of naphthaline every three or four hours till three doses have been taken. These two drugs appear to have a

sickening effect upon the tape-worm and cause it to lose its hold on the intestine, when of course it can be readily swept away by means of a purgative. It should, however, be always borne in mind that "tinea solum" is a misnomer, as frequently several tape-worms have been discovered to exist in the same individual. They are rarely found in children under six years of age. Their length varies from five to ten feet. They are composed of innumerable segments, each of which is a complete animal, having the organs of reproduction, male and female, contained within itself. The segments making up the body are flat and white, and the head is small and attaches itself to the walls of the intestine by means of four suckers. Another and larger tape-worm is also described, but it is only found amongst the inhabitants of Russia and Switzerland. The treatment of worms which infest the lower bowel is best carried out by means of injections, combined with powders containing calomel and scammony. A dessert-spoonful of common salt dissolved in a breakfast-cupful of an infusion of quassia is very efficacious in dislodging these parasites. Another excellent vermifuge is a breakfast-cupful of an infusion of quassia to which has been added a dessert-spoonful of tincture of steel, and employed as an injection. The food of the child should be well cooked, and eaten with plenty of salt, and 15 drops of tincture of steel may be given in water three times a day after food ; or, if preferred, a powder of calomel and scammony may be given every second morning before breakfast. The following is the dose for a child three years old :—Calomel, 3 grains ; compound powder of scammony, 6 grains. Mix. To be given in sugar and water before breakfast. For round-worms the best remedy is santonine, in doses of from 2 to 4 grains, given at bedtime (the child having no supper that night), followed by a dose of castor oil in the morning before breakfast. This may be repeated every third night for three times. This drug sometimes gives rise to giddiness,

disordered vision, sickness, and a peculiar tint to the urine all of which symptoms soon pass off. Tape-worms are sometimes very difficult to remove, from the fact that the head is not easily dislodged from its attachment, and if every vestige of the worm is not got rid of it will grow again. One of the most popular remedies is oil of male-fern, of which ten to thirty drops may be given in milk or gum mucilage. Beforehand the patient should fast for some hours, then a dose of castor oil be given at bed-time, and in the morning the oil of the male-fern administered, and in four or five hours afterwards another dose of castor oil. Turpentine and castor oil are also useful remedies, but it requires a large dose of each, from a half to two tea-spoonfuls of the former mixed with a dessert to a table-spoonful of castor oil. The oil of male-fern and turpentine frequently succeed in dislodging the round-worm also. Kousso in drachm or two-drachm doses, succeeded by a good dose of castor oil six hours afterwards, is my favourite remedy. I have found it often to succeed when all other remedies have failed. When worms have been got rid of it is always wise to advise the patient to take a tonic of tincture of iron and infusion of quassia for a few weeks afterwards. Instructions should be given that no raw meat, especially pork, be partaken of. In conclusion we must always bear in mind that many distressing and apparently alarming symptoms may be due to the presence of worms—such as epilepsy, convulsions, giddiness, fainting, perversion of vision, squinting, dysenteric diarrhoea, etc. Thread-worms are indicated by itching around the anus; straining at stool and giddiness point to round-worms; and gnawing pain, usually felt above the navel, to tape-worm.

*Wounds* are injuries to the human body which invariably produce the separation of the parts involved. They are classified as incised wounds, lacerated wounds, punctured wounds, poisoned wounds, and gun-shot wounds. The treatment in every case should involve the one idea of

preventing decomposition taking place within the injured part. The first duty then of those in attendance is to apply antiseptics, at the same time taking care to prevent haemorrhage by securing any bleeding vessels that may present themselves, especially is this necessary in the case of haemorrhage due to division of an artery. Pressure, in the absence of the medical man, will be sufficient temporarily, but in any case where the haemorrhage is severe it will be well to call in medical assistance. When the bleeding has been thoroughly stopped and the edges of the wound brought together, either by strips of plaster or stitches, the parts should be thoroughly cleansed by the application of an antiseptic fluid—such as carbolic acid in water in the proportion of one to twenty or forty, or a lotion composed of one part of bi-chloride of mercury in one thousand of warm water. The surface of the wound should then be dusted over with a substance which also possesses antiseptic properties—such as iodoform, aristol, or boracic acid. The great point to be attained in the treatment of a wound is to endeavour to obtain union by what is termed first intention, that is union without suppuration intervening. As a rule this can usually be attained by the careful and efficient use of antiseptics; even when the parts are very much bruised this desirable end may be obtained if antiseptics are efficiently employed. In wounds on the face or any part which is highly vascular, stitches will not be so essential as in wounds upon the limbs or trunk, strips of sticking plaster being sufficient to keep the parts in approximation. If the wound be poisoned it will be necessary in such circumstances to take measures which shall either destroy the poison or at least extract it. If the poison be due to snake bite or the sting of an animal the application of ammonia to the part will usually act as a neutralising agent. If, however, this is not at hand it will be necessary to excise the injured part, so as to remove the deleterious substance which has been injected into the

tissues. In bites from dogs it is usual to cauterise the parts with a view not only of destroying the poison, but at the same time producing death of the part which has been affected. In many instances where the wound is lacerated or contused dirt is liable to become adherent to the wound, and in such circumstances it will be necessary to induce suppuration by the free application of poultices or water dressing, and, if need be, keep the wound open by means of some irritating substance, such as blistering ointment. Suppuration frequently takes place in lacerated or contused wounds, and in such circumstances it is absolutely necessary that the part be kept perfectly at rest and in the horizontal position, while the surface of the ulcer may be dusted over once in twenty-four hours with aristol, when healing will usually be encouraged to the utmost.

*Wry Neck.* This well-known deformity is caused by a spasmotic contraction of the sterno-mastoid muscle, which is the principal muscle concerned in the movements of the head from side to side. It may be congenital, but in most instances it is an acquired deformity. It can almost invariably be remedied by dividing the muscle, or by wearing an apparatus which keeps the head in its normal position.

*Yawning* is a forced inspiration generally due to nervous exhaustion. It is very infectious, and in many instances practical jokes have been performed by mischievous persons who have, by constantly yawning, conveyed the infection to those in their immediate neighbourhood. *See Gaping.*

*Yeast* has long been a popular remedy for boils, when it may be taken in wine-glassful doses three or four times a day. It is also employed in poultices, but other much more efficacious remedies are usually prescribed.

*Yellow Fever* is essentially a tropical disease, arising from an insanitary condition of the localities in which it prevails. It is somewhat of an intermittent character, and its virulence seems to expend itself directly upon the liver. In olden

times, before the action of antipyretics was thoroughly understood, it was a most fatal malady ; now, however, it is amenable to treatment to a considerable degree. The great point to observe is to reduce the temperature by antipyretics, and at the same time pay particular attention to the evacuation of the bowels, thorough ventilation of the apartment in which the patient is living, and administer a liberal diet of the most simple description.

*Zinc.* The salts of this well-known metal are largely used in medicine, the principal of these being the oxide, sulphate, and chloride. The oxide of zinc is a white, tasteless, heavy powder, and is employed largely in the form of ointment, and also for dusting excoriated surfaces. It acts as an absorbent of unhealthy secretions, and thus is most valuable in the treatment of eczema, scald, ulcers, etc. Zinc ointment, combined with one part of carbolic to twenty of the ointment, is one of the best healing ointments that can possibly be prescribed. Internally, it is given in diseases such as epilepsy and St. Vitus's dance ; but in such affections the best preparation is the valerianate of zinc, which may be administered in  $2\frac{1}{2}$ -grain doses, three times a day, in the form of pill ; and in such circumstances, when combined with two grains of the extract of conium, it is a useful and efficient nerve tonic. The sulphate of zinc, or white vitriol, resembles very much in its appearance ordinary Epsom salts, so that great care should be taken when administering the latter internally to ascertain that the one is not mistaken for the other. This preparation has powerful emetic properties, and is frequently given to produce vomiting when poisons have been inadvertently or intentionally partaken of. It is also employed in the preparation of an eye lotion, when five grains to the ounce is the strength usually made use of. It is again employed in the treatment of ulcers and in inflammation of mucous membranes, especially those of the vagina and urethra. The dose as an emetic is from 15 to 20 grains in a wine-

glassful of water ; but, when taken as a tonic, it should be administered in the form of pill as before indicated. Chloride of zinc is a powerful caustic as well as an anti-septic, and is employed in the destruction of malignant and other growths. The acetate and carbonate of zinc have very much the same properties as those possessed by the oxide and sulphate, but they are not such popular remedies as the latter substances.

*Zymotic* is the term which is applied to those diseases which are of an epidemic nature—such as scarlet fever, measles, small-pox, chicken-pox, typhoid fever, mumps, etc.

## WOMEN AND CHILDREN.

HAVING, so far as the character of this book is concerned, given the necessary attention to the various subjects which have been brought under review, it has occurred to me that possibly some of my readers may desire fuller information than a work of this kind is expected to yield upon certain subjects, especially with regard to the diseases which are peculiar to women, and also the various troubles to which children are liable.

I would, therefore, call attention to two previous publications, viz., "Woman in Health and Sickness" (which is now in its second edition), and "Our Children : How to keep them well, and treat them when they are ill" (which is in its third edition).

In these works the fullest information is conveyed in as simple language as it is possible to employ, while the more important diseases are enlarged upon to an extent, which, as has been indicated by the various critics who have reviewed these works, describes them in language simple and easily understood.

On the other hand, these books enable one to guard against disease, also to understand its approach by symptoms which might otherwise be overlooked if ignorance existed on the subjects which they treat. For example, in the book upon "Women," nervous symptoms, which frequently receive little sympathy, and which to an outsider appear to be unreasonable, have their cause pointed out and the treatment which should be followed for their relief. Then again, much information is given regarding the care which should be bestowed upon a woman both during and after the completion of pregnancy. In other words, the book is written specially for women, and it is not too much to say that it must necessarily prove a useful guide to her in many delicate and difficult questions which naturally arise in the course of her life.

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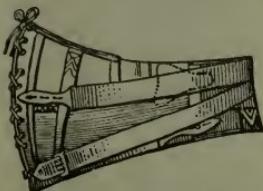
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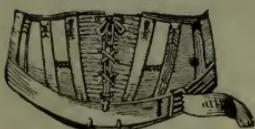
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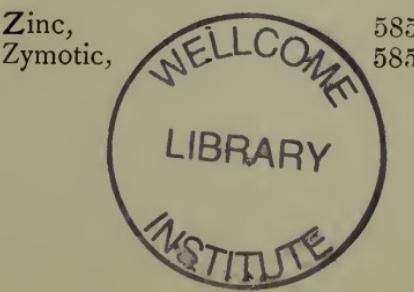
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